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NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2	Apr 08	"Ask CAS" for self-help around the clock
NEWS 3	Jun 03	New e-mail delivery for search results now available
NEWS 4	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 5	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS 6	Aug 26	Sequence searching in REGISTRY enhanced
NEWS 7	Sep 03	JAPIO has been reloaded and enhanced
NEWS 8	Sep 16	Experimental properties added to the REGISTRY file
NEWS 9	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS 10	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS 11	Oct 24	BEILSTEIN adds new search fields
NEWS 12	Oct 24	Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 13	Nov 18	DKILIT has been renamed APOLLIT
NEWS 14	Nov 25	More calculated properties added to REGISTRY
NEWS 15	Dec 04	CSA files on STN
NEWS 16	Dec 17	PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS 17	Dec 17	TOXCENTER enhanced with additional content
NEWS 18	Dec 17	Adis Clinical Trials Insight now available on STN
NEWS 19	Jan 29	Simultaneous left and right truncation added to COMPENDEX, ENERGY, INSPEC
NEWS 20	Feb 13	CANCERLIT is no longer being updated
NEWS 21	Feb 24	METADEX enhancements
NEWS 22	Feb 24	PCTGEN now available on STN
NEWS 23	Feb 24	TEMA now available on STN
NEWS 24	Feb 26	NTIS now allows simultaneous left and right truncation
NEWS 25	Feb 26	PCTFULL now contains images
NEWS 26	Mar 04	SDI PACKAGE for monthly delivery of multifile SDI results
NEWS 27	Mar 19	APOLLIT offering free connect time in April 2003
NEWS 28	Mar 20	EVENTLINE will be removed from STN
NEWS 29	Mar 24	PATDPAFULL now available on STN
NEWS 30	Mar 24	Additional information for trade-named substances without structures available in REGISTRY
NEWS 31	Apr 11	Display formats in DGENE enhanced
NEWS 32	Apr 14	MEDLINE Reload
NEWS 33	Apr 17	Polymer searching in REGISTRY enhanced
NEWS 34	Apr 21	Indexing from 1947 to 1956 being added to records in CA/CAPLUS
NEWS 35	Apr 21	New current-awareness alert (SDI) frequency in WPIDS/WPINDEX/WPIX
NEWS 36	Apr 28	RDISCLOSURE now available on STN

NEWS EXPRESS	April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS INTER	General Internet Information
NEWS LOGIN	Welcome Banner and News Items
NEWS PHONE	Direct Dial and Telecommunication Network Access to STN

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 NEWS WWW      CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that
specific topic.

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  * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *



FILE 'HOME' ENTERED AT 15:52:10 ON 28 APR 2003

=> file dgene
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.21       0.21

FILE 'DGENE' ENTERED AT 15:52:35 ON 28 APR 2003
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FILE LAST UPDATED: 25 APR 2003       <20030425/UP>

DGENE CURRENTLY CONTAINS 3,513,779 BIOSEQUENCES

>>> DOWNLOAD THE DGENE WORKSHOP MANUAL:
http://www.stn-international.de/training_center/bioseq/dgene_wm.pdf

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http://www.stn-international.de/training_center/bioseq/dgene_help.pdf   <<<

>>> DOWNLOAD DGENE BLAST/GETSIM FREQUENTLY ASKED QUESTIONS:
 http://www.stn-international.de/service/faq/dgenefaq.pdf    <<<

=> s ostogenic protein and nonarticular cartilage repair
             0 OSTOGENIC
       1401487 PROTEIN
             0 OSTOGENIC PROTEIN
                 (OSTOGENIC(W)PROTEIN)
             7 NONARTICULAR
         22747 CARTILAGE
         51008 REPAIR
             0 NONARTICULAR CARTILAGE REPAIR
                 (NONARTICULAR(W)CARTILAGE(W)REPAIR)
L1           0 OSTOGENIC PROTEIN AND NONARTICULAR CARTILAGE REPAIR

=> s osteogenic protein
          2004 OSTEOGENIC
       1401487 PROTEIN
L2        1127 OSTEOGENIC PROTEIN
                 (OSTEOGENIC(W)PROTEIN)

=> s nonarticular cartilage
             7 NONARTICULAR
         22747 CARTILAGE
L3           7 NONARTICULAR CARTILAGE
                 (NONARTICULAR(W)CARTILAGE)

=> s l3 and larynx
```

```
          1411 LARYNX
L4           7 L3 AND LARYNX

=> s l3 and l4
L5           7 L3 AND L4

=> s l5 and l2
L6           7 L5 AND L2

=> s l6 and repair
         51008 REPAIR
L7           0 L6 AND REPAIR

=> d l6 ti abs ibib tot

L6    ANSWER 1 OF 7  DGENE (C) 2003 THOMSON DERWENT
TI    Novel methods for repairing a defect in mammalian nonarticular
      cartilage tissue or ligaments using an osteogenic
      protein in a biocompatible, bioresorbable carrier
AN    AAY92442  Protein       DGENE
AB    The specification concerns a novel method for repairing a defect in a
      non-articular cartilage tissue or a ligament of a mammal, which comprises
      providing an osteogenic protein in a biocompatible,
      bioresorbable carrier to the defect locus to induce the formation of
      functional replacement cartilage.  The methods and implants, promote
      chondrogenesis and are useful for repairing or correcting a defect in a
      non-articular cartilage tissue or a ligament of a mammal, e.g. cleft
      larynx, oedema of the glottis, ulceration of the larynx
      caused by syphilis, tuberculosis or malignancy, defects resulting from
      mechanical trauma to the larynx or trachea (including
      tracheotomy and laryngotomy), laryngeal cancer, and defects of the ear,
      nose, ribs, invertebral discs, and interarticular menisci.
ACCESSION NUMBER: AAY92442  Protein       DGENE
TITLE:            Novel methods for repairing a defect in mammalian
                  nonarticular cartilage tissue or ligaments
                  using an osteogenic protein in a
                  biocompatible, bioresorbable carrier
INVENTOR:         Vukicevic S; Katic V; Sampath K T
PATENT ASSIGNEE:  (STYC)STRYKER CORP.
PATENT INFO:      WO 2000020021 A1 20000413                65p
APPLICATION INFO: WO 1999-US17222  19990730
PRIORITY INFO:    US 1998-103161   19981006
DOCUMENT TYPE:    Patent
LANGUAGE:         English
OTHER SOURCE:     2000-317644 [27]
CROSS REFERENCES: N-PSDB: AAA09361
DESCRIPTION:      Human osteogenic protein 1 (OP-1).

L6    ANSWER 2 OF 7  DGENE (C) 2003 THOMSON DERWENT
TI    Novel methods for repairing a defect in mammalian nonarticular
      cartilage tissue or ligaments using an osteogenic
      protein in a biocompatible, bioresorbable carrier
AN    AAY92441  protein       DGENE
AB    Generic Sequence 10 contains generic sequence 9 and an N-terminal
      extension.  Generic sequence 9 is a composite amino acid sequence of the
      following proteins: human OP-1 to -3, human BMP-2 to -6, -9 to -11,
      Drosophila 60A, Xenopus Vg-1, sea urchin UNIVIN, human CDMP-1 to -3,
      human and mouse GDF-1, chicken DORSALIN, DPP, Drosophila Screw, mouse
      NODAL, mouse GDF-8 to -11, human GDF-8, -11, human BMP-15 and rat BMP3b.
      The specification concerns a novel method for repairing a defect in a
      non-articular cartilage tissue or a ligament of a mammal, which comprises
      providing an osteogenic protein in a biocompatible,
      bioresorbable carrier to the defect locus to induce the formation of
      functional replacement cartilage.  The methods and implants, promote
```

chondrogenesis and are useful for repairing or correcting a defect in a non-articular cartilage tissue or a ligament of a mammal, e.g. cleft **larynx**, oedema of the glottis, ulceration of the **larynx** caused by syphilis, tuberculosis or malignancy, defects resulting from mechanical trauma to the **larynx** or trachea (including tracheotomy and laryngotomy), laryngeal cancer, and defects of the ear, nose, ribs, invertebral discs, and interarticular menisci.

ACCESSION NUMBER: AAY92441 protein DGENE
TITLE: Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an **osteogenic protein** in a biocompatible, bioresorbable carrier
INVENTOR: Vukicevic S; Katic V; Sampath K T
PATENT ASSIGNEE: (STYC) STRYKER CORP.
PATENT INFO: WO 2000020021 A1 20000413 65p
APPLICATION INFO: WO 1999-US17222 19990730
PRIORITY INFO: US 1998-103161 19981006
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-317644 [27]
DESCRIPTION: Generic sequence 10, derived from **osteogenic protein** family members.

L6 ANSWER 3 OF 7 DGENE (C) 2003 THOMSON DERWENT
TI Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an **osteogenic protein** in a biocompatible, bioresorbable carrier
AN AAY92440 protein DGENE
AB Generic Sequence 9 is a composite amino acid sequence of the following proteins: human OP-1 to -3, human BMP-2 to -6, -9 to -11, Drosophila 60A, Xenopus Vg-1, sea urchin UNIVIN, human CDMP-1 to -3, human and mouse GDF-1, chicken DORSALIN, DPP, Drosophila Screw, mouse NODAL, mouse GDF-8 to -11, human GDF-8, -11, human BMP-15 and rat BMP3b. The specification concerns a novel method for repairing a defect in a non-articular cartilage tissue or a ligament of a mammal, which comprises providing an **osteogenic protein** in a biocompatible, bioresorbable carrier to the defect locus to induce the formation of functional replacement cartilage. The methods and implants, promote chondrogenesis and are useful for repairing or correcting a defect in a non-articular cartilage tissue or a ligament of a mammal, e.g. cleft **larynx**, oedema of the glottis, ulceration of the **larynx** caused by syphilis, tuberculosis or malignancy, defects resulting from mechanical trauma to the **larynx** or trachea (including tracheotomy and laryngotomy), laryngeal cancer, and defects of the ear, nose, ribs, invertebral discs, and interarticular menisci.

ACCESSION NUMBER: AAY92440 protein DGENE
TITLE: Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an **osteogenic protein** in a biocompatible, bioresorbable carrier
INVENTOR: Vukicevic S; Katic V; Sampath K T
PATENT ASSIGNEE: (STYC) STRYKER CORP.
PATENT INFO: WO 2000020021 A1 20000413 65p
APPLICATION INFO: WO 1999-US17222 19990730
PRIORITY INFO: US 1998-103161 19981006
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-317644 [27]
DESCRIPTION: Generic sequence 9, derived from **osteogenic protein** family members.

L6 ANSWER 4 OF 7 DGENE (C) 2003 THOMSON DERWENT
TI Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an **osteogenic**

protein in a biocompatible, bioresorbable carrier
AN AAY92439 protein DGENE
AB Generic Sequence 8 contains generic sequence 7 (AAY92438), which accomodates the homologies shared among **osteogenic protein** family members, including OP-1, OP-2, OP-3, BMP-2 to -6, 60A, DPP, Vg-1, Vgr-1 and GDF, as well as an N-terminal addition of 5 residues. The specification concerns a novel method for repairing a defect in a non-articular cartilage tissue or a ligament of a mammal, which comprises providing an **osteogenic protein** in a biocompatible, bioresorbable carrier to the defect locus to induce the formation of functional replacement cartilage. The methods and implants, promote chondrogenesis and are useful for repairing or correcting a defect in a non-articular cartilage tissue or a ligament of a mammal, e.g. cleft **larynx**, oedema of the glottis, ulceration of the **larynx** caused by syphilis, tuberculosis or malignancy, defects resulting from mechanical trauma to the **larynx** or trachea (including tracheotomy and laryngotomy), laryngeal cancer, and defects of the ear, nose, ribs, invertebral discs, and interarticular menisci.
ACCESSION NUMBER: AAY92439 protein DGENE
TITLE: Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an **osteogenic protein** in a biocompatible, bioresorbable carrier
INVENTOR: Vukicevic S; Katic V; Sampath K T
PATENT ASSIGNEE: (STYC)STRYKER CORP.
PATENT INFO: WO 2000020021 A1 20000413 65p
APPLICATION INFO: WO 1999-US17222 19990730
PRIORITY INFO: US 1998-103161 19981006
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-317644 [27]
DESCRIPTION: Generic sequence 8, derived from **osteogenic protein** family members.

L6 ANSWER 5 OF 7 DGENE (C) 2003 THOMSON DERWENT
TI Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an **osteogenic protein** in a biocompatible, bioresorbable carrier
AN AAY92438 protein DGENE
AB Generic Sequence 7 accomodates the homologies shared among **osteogenic protein** family members, including OP-1, OP-2, OP-3, BMP-2 to -6, 60A, DPP, Vg-1, Vgr-1 and GDF. The specification concerns a novel method for repairing a defect in a non-articular cartilage tissue or a ligament of a mammal, which comprises providing an **osteogenic protein** in a biocompatible, bioresorbable carrier to the defect locus to induce the formation of functional replacement cartilage. The methods and implants, promote chondrogenesis and are useful for repairing or correcting a defect in a non-articular cartilage tissue or a ligament of a mammal, e.g. cleft **larynx**, oedema of the glottis, ulceration of the **larynx** caused by syphilis, tuberculosis or malignancy, defects resulting from mechanical trauma to the **larynx** or trachea (including tracheotomy and laryngotomy), laryngeal cancer, and defects of the ear, nose, ribs, invertebral discs, and interarticular menisci.
ACCESSION NUMBER: AAY92438 protein DGENE
TITLE: Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an **osteogenic protein** in a biocompatible, bioresorbable carrier
INVENTOR: Vukicevic S; Katic V; Sampath K T
PATENT ASSIGNEE: (STYC)STRYKER CORP.
PATENT INFO: WO 2000020021 A1 20000413 65p
APPLICATION INFO: WO 1999-US17222 19990730
PRIORITY INFO: US 1998-103161 19981006

DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-317644 [27]
DESCRIPTION: Generic sequence 7, derived from **osteogenic protein** family members.

L6 ANSWER 6 OF 7 DGENE (C) 2003 THOMSON DERWENT
TI Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an **osteogenic protein** in a biocompatible, bioresorbable carrier
AN AAY92437 protein DGENE
AB OPX defines the seven-cysteine skeleton of several OP-1 and OP-2 variants. Each Xaa is chosen from the residues occuring at the corresponding position in the C-terminal sequence of mouse or human OP-1 or OP-2. The specification concerns a novel method for repairing a defect in a non-articular cartilage tissue or a ligament of a mammal, which comprises providing an **osteogenic protein** in a biocompatible, bioresorbable carrier to the defect locus to induce the formation of functional replacement cartilage. The methods and implants, promote chondrogenesis and are useful for repairing or correcting a defect in a non-articular cartilage tissue or a ligament of a mammal, e.g. cleft **larynx**, oedema of the glottis, ulceration of the **larynx** caused by syphilis, tuberculosis or malignancy, defects resulting from mechanical trauma to the **larynx** or trachea (including tracheotomy and laryngotomy), laryngeal cancer, and defects of the ear, nose, ribs, invertebral discs, and interarticular menisci.
ACCESSION NUMBER: AAY92437 protein DGENE
TITLE: Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an **osteogenic protein** in a biocompatible, bioresorbable carrier
INVENTOR: Vukicevic S; Katic V; Sampath K T
PATENT ASSIGNEE: (STYC) STRYKER CORP.
PATENT INFO: WO 2000020021 A1 20000413 65p
APPLICATION INFO: WO 1999-US17222 19990730
PRIORITY INFO: US 1998-103161 19981006
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-317644 [27]
DESCRIPTION: Generic OPX, seven-cysteine skeleton.

L6 ANSWER 7 OF 7 DGENE (C) 2003 THOMSON DERWENT
TI Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an **osteogenic protein** in a biocompatible, bioresorbable carrier
AN AAA09361 cDNA DGENE
AB The specification concerns a novel method for repairing a defect in a non-articular cartilage tissue or a ligament of a mammal, which comprises providing an **osteogenic protein** in a biocompatible, bioresorbable carrier to the defect locus to induce the formation of functional replacement cartilage. The methods and implants, promote chondrogenesis and are useful for repairing or correcting a defect in a non-articular cartilage tissue or a ligament of a mammal, e.g. cleft **larynx**, oedema of the glottis, ulceration of the **larynx** caused by syphilis, tuberculosis or malignancy, defects resulting from mechanical trauma to the **larynx** or trachea (including tracheotomy and laryngotomy), laryngeal cancer, and defects of the ear, nose, ribs, invertebral discs, and interarticular menisci.
ACCESSION NUMBER: AAA09361 cDNA DGENE
TITLE: Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an **osteogenic protein** in a biocompatible, bioresorbable carrier
INVENTOR: Vukicevic S; Katic V; Sampath K T

PATENT ASSIGNEE: (STYC)STRYKER CORP.
PATENT INFO: WO 2000020021 A1 20000413 65p
APPLICATION INFO: WO 1999-US17222 19990730
PRIORITY INFO: US 1998-103161 19981006
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-317644 [27]
CROSS REFERENCES: P-PSDB: AAY92442
DESCRIPTION: Human **osteogenic protein** 1 (OP-1) coding sequence.

=> d his

(FILE 'HOME' ENTERED AT 15:52:10 ON 28 APR 2003)

FILE 'DGENE' ENTERED AT 15:52:35 ON 28 APR 2003
L1 0 S OSTOGENIC PROTEIN AND NONARTICULAR CARTILAGE REPAIR
L2 1127 S OSTEOGENIC PROTEIN
L3 7 S NONARTICULAR CARTILAGE
L4 7 S L3 AND LARYNX
L5 7 S L3 AND L4
L6 7 S L5 AND L2
L7 0 S L6 AND REPAIR

=> file wpids
COST IN U.S. DOLLARS SINCE FILE ENTRY TOTAL SESSION
FULL ESTIMATED COST 40.06 40.27

FILE 'WPIDS' ENTERED AT 15:57:11 ON 28 APR 2003
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FILE LAST UPDATED: 28 APR 2003 <20030428/UP>
MOST RECENT DERWENT UPDATE: 200326 <200326/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

Due to data production problems in updates 24 and 25 the WPI file had to be reset to update 200323 on April 24 and the corrected updates were reloaded. SDIs for update 24 were rerun. The previous SDI run for 24 has been credited. We also recommend to recreate answer sets dated between April 10 and 24. Charges incurred to accomplish this will be credited of course.

>>> NEW WEEKLY SDI FREQUENCY AVAILABLE --> see NEWS <<<

>>> PATENT IMAGES AVAILABLE FOR PRINT AND DISPLAY <<<

>>> FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE http://www.derwent.com/dwpi/updates/dwpicov/index.html <<<

>>> FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE, PLEASE VISIT:
http://www.stn-international.de/training_center/patents/stn_guide.pdf <<<

>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER GUIDES, PLEASE VISIT:
http://www.derwent.com/userguides/dwpi_guide.html <<<

=> s l1
1 OSTOGENIC
96319 PROTEIN

```
            0 OSTOGENIC PROTEIN
                (OSTOGENIC(W)PROTEIN)
            3 NONARTICULAR
         2940 CARTILAGE
        44338 REPAIR
            0 NONARTICULAR CARTILAGE REPAIR
                (NONARTICULAR(W)CARTILAGE(W)REPAIR)
L8          0 OSTOGENIC PROTEIN AND NONARTICULAR CARTILAGE REPAIR

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     (FILE 'HOME' ENTERED AT 15:52:10 ON 28 APR 2003)

     FILE 'DGENE' ENTERED AT 15:52:35 ON 28 APR 2003
L1          0 S OSTOGENIC PROTEIN AND NONARTICULAR CARTILAGE REPAIR
L2       1127 S OSTEOGENIC PROTEIN
L3          7 S NONARTICULAR CARTILAGE
L4          7 S L3 AND LARYNX
L5          7 S L3 AND L4
L6          7 S L5 AND L2
L7          0 S L6 AND REPAIR

     FILE 'WPIDS' ENTERED AT 15:57:11 ON 28 APR 2003
L8          0 S L1

=> s l2
          487 OSTEOGENIC
        96319 PROTEIN
L9         91 OSTEOGENIC PROTEIN
              (OSTEOGENIC(W)PROTEIN)

=> s l3
            3 NONARTICULAR
         2940 CARTILAGE
L10         1 NONARTICULAR CARTILAGE
              (NONARTICULAR(W)CARTILAGE)

=> s l4
            3 NONARTICULAR
         2940 CARTILAGE
            1 NONARTICULAR CARTILAGE
                (NONARTICULAR(W)CARTILAGE)
          901 LARYNX
L11         1 L3 AND LARYNX

=> s l5
            3 NONARTICULAR
         2940 CARTILAGE
            1 NONARTICULAR CARTILAGE
                (NONARTICULAR(W)CARTILAGE)
            3 NONARTICULAR
         2940 CARTILAGE
            1 NONARTICULAR CARTILAGE
                (NONARTICULAR(W)CARTILAGE)
          901 LARYNX
L12         1 L3 AND L4

=> s l6
            3 NONARTICULAR
         2940 CARTILAGE
            1 NONARTICULAR CARTILAGE
                (NONARTICULAR(W)CARTILAGE)
            3 NONARTICULAR
         2940 CARTILAGE
```

```
            1 NONARTICULAR CARTILAGE
              (NONARTICULAR(W)CARTILAGE)
          901 LARYNX
          487 OSTEOGENIC
        96319 PROTEIN
           91 OSTEOGENIC PROTEIN
              (OSTEOGENIC(W)PROTEIN)
L13          1 L5 AND L2

=> d l13 ti abs ibib tot

L13  ANSWER 1 OF 1  WPIDS (C) 2003 THOMSON DERWENT
TI   Novel methods for repairing a defect in mammalian nonarticular
     cartilage tissue or ligaments using an osteogenic
     protein in a biocompatible, bioresorbable carrier.
AN   2000-317644 [27]   WPIDS
CR   2000-317706 [27]
AB   WO 200020021 A UPAB: 20020910
     NOVELTY - Repairing a defect in a nonarticular cartilage
     tissue or a ligament of a mammal, comprising providing an
     osteogenic protein in a biocompatible, bioresorbable
     carrier to the defect locus, inducing the formation of functional
     replacement cartilage, is new.
          DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the
     following:
          (1) an implantable device for repairing a defect in a
     nonarticular cartilage tissue comprising an
     osteogenic protein disposed in a devitalized cartilage,
     a collagen carrier, or a carboxymethylcellulose carrier; and
          (2) promoting chondrogenesis at a defect locus in a mammal comprising
     providing an osteogenic protein in a devitalized
     cartilage carrier that is configured to fit into the defect locus.
          ACTIVITY - Osteogenic; chondrogenic.
          MECHANISM OF ACTION - Osteopathic stimulating implant;
     transplantation.
          USE - The methods and implants are useful for repairing or correcting
     a defect in a nonarticular cartilage tissue or a
     ligament of a mammal, e.g. cleft larynx, edema of the glottis,
     ulceration of the larynx caused by syphilis, tuberculosis or
     malignancy, defects resulting from mechanical trauma to the larynx
     or trachea (including tracheotomy and laryngotomy), laryngeal cancer, and
     defects of the ear, nose, ribs, invertebral discs, and interarticular
     menisci.
     Dwg.0/0
ACCESSION NUMBER:      2000-317644 [27]   WPIDS
CROSS REFERENCE:       2000-317706 [27]
DOC. NO. CPI:          C2000-096081
TITLE:                 Novel methods for repairing a defect in mammalian
                       nonarticular cartilage tissue or
                       ligaments using an osteogenic protein
                       in a biocompatible, bioresorbable carrier.
DERWENT CLASS:         A96 B04 D22
INVENTOR(S):           KATIC, V; SAMPATH, K T; VUKICEVIC, S
PATENT ASSIGNEE(S):    (STYC) STRYKER CORP; (CREA-N) CREATIVE BIOMOLECULES INC
COUNTRY COUNT:         23
PATENT INFORMATION:

     PATENT NO   KIND DATE     WEEK      LA   PG
     ------------------------------------------
     WO 2000020021 A1 20000413 (200027)* EN   64
        RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
         W: AU CA JP US
     AU 9952417    A  20000426 (200036)
     EP 1117422    A1 20010725 (200143)  EN
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R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
US 2001024823 A1 20010927 (200159)
JP 2002526167 W 20020820 (200258) 70

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 2000020021	A1		WO 1999-US17222	19990730
AU 9952417	A		AU 1999-52417	19990730
EP 1117422	A1		EP 1999-937624	19990730
			WO 1999-US17222	19990730
US 2001024823	A1	Provisional	US 1998-103161P	19981006
		Cont of	WO 1999-US17222	19990730
			US 2001-828607	20010406
JP 2002526167	W		WO 1999-US17222	19990730
			JP 2000-573380	19990730

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9952417	A	Based on	WO 200020021
EP 1117422	A1	Based on	WO 200020021
JP 2002526167	W	Based on	WO 200020021

PRIORITY APPLN. INFO: US 1998-103161P 19981006; US 2001-828607 20010406

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FILE 'DGENE' ENTERED AT 15:52:35 ON 28 APR 2003
L1 0 S OSTOGENIC PROTEIN AND NONARTICULAR CARTILAGE REPAIR
L2 1127 S OSTEOGENIC PROTEIN
L3 7 S NONARTICULAR CARTILAGE
L4 7 S L3 AND LARYNX
L5 7 S L3 AND L4
L6 7 S L5 AND L2
L7 0 S L6 AND REPAIR

FILE 'WPIDS' ENTERED AT 15:57:11 ON 28 APR 2003
L8 0 S L1
L9 91 S L2
L10 1 S L3
L11 1 S L4
L12 1 S L5
L13 1 S L6

=> file hcaplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	6.64	46.91

FILE 'HCAPLUS' ENTERED AT 15:57:59 ON 28 APR 2003
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FILE COVERS 1907 - 28 Apr 2003 VOL 138 ISS 18
FILE LAST UPDATED: 27 Apr 2003 (20030427/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s l6
            19 NONARTICULAR
         19446 CARTILAGE
             5 NONARTICULAR CARTILAGE
                 (NONARTICULAR(W)CARTILAGE)
            19 NONARTICULAR
         19446 CARTILAGE
             5 NONARTICULAR CARTILAGE
                 (NONARTICULAR(W)CARTILAGE)
          2142 LARYNX
          2601 OSTEOGENIC
       1503618 PROTEIN
           266 OSTEOGENIC PROTEIN
                 (OSTEOGENIC(W)PROTEIN)
L14           1 L5 AND L2

=> d l14 ti abs ibib tot

L14  ANSWER 1 OF 1  HCAPLUS  COPYRIGHT 2003 ACS
TI   Osteogenic proteins for repair of larynx, trachea, and other
     fibrocartilaginous tissues
AB   Provided herein are methods and devices for inducing the formation of
     functional replacement nonarticular cartilage tissues
     and ligament tissues.  These methods and devices involve the use of
     osteogenic proteins, and are useful in repairing defects in the
     larynx, trachea, interarticular menisci, intervertebral disks,
     ear, nose, ribs and other fibrocartilaginous tissues in a mammal.
ACCESSION NUMBER:         2000:240976  HCAPLUS
DOCUMENT NUMBER:          132:284278
TITLE:                    Osteogenic proteins for repair of larynx,
                          trachea, and other fibrocartilaginous tissues
INVENTOR(S):              Vukicevic, Slobodan; Katic, Vladimir; Sampath, Kuber
                          T.
PATENT ASSIGNEE(S):       Stryker Corporation, USA
SOURCE:                   PCT Int. Appl., 65 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   2
PATENT INFORMATION:

     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
     ---------------   ----  --------      ---------------  --------
     WO 2000020021      A1   20000413      WO 1999-US17222  19990730
         W:  AU, CA, JP, US
         RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
             PT, SE
     CA 2343698         AA   20000413      CA 1999-2343698  19990730
     AU 9952417         A1   20000426      AU 1999-52417    19990730
```

```
     EP 1117422        A1   20010725       EP 1999-937624   19990730
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, FI
     JP 2002526167     T2   20020820       JP 2000-573380   19990730
     US 2002106362     A1   20020808       US 1999-366021   19990802
     US 2001024823     A1   20010927       US 2001-828607   20010406
PRIORITY APPLN. INFO.:                   US 1998-103161P  P  19981006
                                         WO 1999-US17222  W  19990730
REFERENCE COUNT:          8     THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS
                                RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT


=> d his

     (FILE 'HOME' ENTERED AT 15:52:10 ON 28 APR 2003)

     FILE 'DGENE' ENTERED AT 15:52:35 ON 28 APR 2003
L1             0 S OSTOGENIC PROTEIN AND NONARTICULAR CARTILAGE REPAIR
L2          1127 S OSTEOGENIC PROTEIN
L3             7 S NONARTICULAR CARTILAGE
L4             7 S L3 AND LARYNX
L5             7 S L3 AND L4
L6             7 S L5 AND L2
L7             0 S L6 AND REPAIR

     FILE 'WPIDS' ENTERED AT 15:57:11 ON 28 APR 2003
L8             0 S L1
L9            91 S L2
L10            1 S L3
L11            1 S L4
L12            1 S L5
L13            1 S L6

     FILE 'HCAPLUS' ENTERED AT 15:57:59 ON 28 APR 2003
L14            1 S L6

=> file uspatful
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     4.67      51.58

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 24 Apr 2003 (20030424/PD)
FILE LAST UPDATED: 24 Apr 2003 (20030424/ED)
HIGHEST GRANTED PATENT NUMBER: US6553568
HIGHEST APPLICATION PUBLICATION NUMBER: US2003079264
CA INDEXING IS CURRENT THROUGH 24 Apr 2003 (20030424/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 24 Apr 2003 (20030424/PD)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2003
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2003

>>>  USPAT2 is now available.  USPATFULL contains full text of the     <<<
>>>  original, i.e., the earliest published granted patents or         <<<
>>>  applications.  USPAT2 contains full text of the latest US         <<<
>>>  publications, starting in 2001, for the inventions covered in     <<<
>>>  USPATFULL.  A USPATFULL record contains not only the original     <<<
>>>  published document but also a list of any subsequent              <<<
>>>  publications.  The publication number, patent kind code, and      <<<
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>>> publication date for all the US publications for an invention <<<
>>> are displayed in the PI (Patent Information) field of USPATFULL <<<
>>> records and may be searched in standard search fields, e.g., /PN, <<<
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>>> USPATFULL and USPAT2 can be accessed and searched together <<<
>>> through the new cluster USPATALL. Type FILE USPATALL to <<<
>>> enter this cluster. <<<
>>> <<<
>>> Use USPATALL when searching terms such as patent assignees, <<<
>>> classifications, or claims, that may potentially change from <<<
>>> the earliest to the latest publication. <<<

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```
=> s l1
             8 OSTOGENIC
        138123 PROTEIN
             1 OSTOGENIC PROTEIN
               (OSTOGENIC(W)PROTEIN)
            17 NONARTICULAR
         11218 CARTILAGE
        109530 REPAIR
             0 NONARTICULAR CARTILAGE REPAIR
               (NONARTICULAR(W)CARTILAGE(W)REPAIR)
L15          0 OSTOGENIC PROTEIN AND NONARTICULAR CARTILAGE REPAIR

=> s l6
            17 NONARTICULAR
         11218 CARTILAGE
             6 NONARTICULAR CARTILAGE
               (NONARTICULAR(W)CARTILAGE)
            17 NONARTICULAR
         11218 CARTILAGE
             6 NONARTICULAR CARTILAGE
               (NONARTICULAR(W)CARTILAGE)
          2788 LARYNX
          2523 OSTEOGENIC
        138123 PROTEIN
           307 OSTEOGENIC PROTEIN
               (OSTEOGENIC(W)PROTEIN)
L16          1 L5 AND L2

=> d l16 ti abs ibib tot

L16  ANSWER 1 OF 1  USPATFULL
TI     Repair of larynx, trachea, and other fibrocartilaginous
       tissues
AB     Provided herein are methods and devices for inducing the formation of
       functional replacement nonarticular cartilage
       tissues and ligament tissues. These methods and devices involve the use
       of osteogenic proteins, and are useful in repairing defects in the
       larynx, trachea, interarticular menisci, intervertebral discs,
       ear, nose, ribs and other fibrocartilaginous tissues in a mammal.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER:        2001:165613  USPATFULL
TITLE:                   Repair of larynx, trachea, and other
                         fibrocartilaginous tissues
INVENTOR(S):             Vukicevic, Slobodan, Zagreb, Croatia
                         Katic, Vladimir, Zagreb, Croatia
                         Sampath, Kuber T., Holliston, MA, United States
PATENT ASSIGNEE(S):      Creative BioMolecules, Inc. (non-U.S. corporation)
```

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2001024823	A1	20010927
APPLICATION INFO.:	US 2001-828607	A1	20010406 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. WO 1999-US17222, filed on 30 Jul 1999, UNKNOWN

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-103161P	19981006 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: FISH & NEAVE, 1251 AVENUE OF THE AMERICAS, 50TH FLOOR, NEW YORK, NY, 10020-1105
NUMBER OF CLAIMS: 56
EXEMPLARY CLAIM: 1
LINE COUNT: 1859
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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NEWS 21	Feb 24	METADEX enhancements
NEWS 22	Feb 24	PCTGEN now available on STN
NEWS 23	Feb 24	TEMA now available on STN
NEWS 24	Feb 26	NTIS now allows simultaneous left and right truncation
NEWS 25	Feb 26	PCTFULL now contains images
NEWS 26	Mar 04	SDI PACKAGE for monthly delivery of multifile SDI results
NEWS 27	Mar 19	APOLLIT offering free connect time in April 2003
NEWS 28	Mar 20	EVENTLINE will be removed from STN
NEWS 29	Mar 24	PATDPAFULL now available on STN
NEWS 30	Mar 24	Additional information for trade-named substances without structures available in REGISTRY
NEWS 31	Apr 11	Display formats in DGENE enhanced
NEWS 32	Apr 14	MEDLINE Reload
NEWS 33	Apr 17	Polymer searching in REGISTRY enhanced
NEWS 34	Apr 21	Indexing from 1947 to 1956 being added to records in CA/CAPLUS
NEWS 35	Apr 21	New current-awareness alert (SDI) frequency in WPIDS/WPINDEX/WPIX
NEWS 36	Apr 28	RDISCLOSURE now available on STN

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FILE 'HOME' ENTERED AT 14:40:10 ON 28 APR 2003

=> file biosis, dgene, wpids

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

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=> e vukicevic,s/au

E1	2	VUKICEVIC V/AU
E2	7	VUKICEVIC Z/AU
E3	0 -->	VUKICEVIC,S/AU
E4	1	VUKICH B B/AU
E5	1	VUKICH D/AU
E6	4	VUKICH D J/AU
E7	1	VUKICH DAVID/AU
E8	1	VUKICH DAVID J/AU
E9	1	VUKICH H/AU
E10	3	VUKICH J/AU
E11	1	VUKICH J C/AU
E12	3	VUKICH J J/AU

=> e katic, v/au

E1	2	KATIC VLADIMIR VVICA KLAPAN/AU
E2	3	KATIC Z/AU
E3	0 -->	KATIC, V/AU
E4	2	KATICH J F/AU
E5	1	KATICH M J/AU
E6	1	KATICH R/AU
E7	2	KATICH STEPHANIE/AU
E8	1	KATICH STEPHANIE C/AU
E9	1	KATICH STEPHANINE/AU
E10	2	KATICHEV A M/AU
E11	1	KATICHEV A N/AU
E12	1	KATICHEV D I/AU

=> s e1

L1	2	"KATIC VLADIMIR VVICA KLAPAN"/AU

=> e sampath, k/au

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E1            1      SAMPATH W/AU
E2            2      SAMPATH W S/AU
E3            0 --> SAMPATH, K/AU
E4            1      SAMPATHACHAR K R/AU
E5            1      SAMPATHANUKUL PICHET/AU
E6            1      SAMPATHI L/AU
E7            1      SAMPATHKUM K/AU
E8            1      SAMPATHKUM L/AU
E9            6      SAMPATHKUM P/AU
E10           3      SAMPATHKUM P S/AU
E11          11      SAMPATHKUMAR A/AU
E12           2      SAMPATHKUMAR B/AU

=> d l1 ti abs ibib tot

L1   ANSWER 1 OF 2  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI   Acute upper respiratory tract infections and indications for tonsillectomy
     in children. I. Immunoglobulin synthesis in the palatine tonsil tissue.
AB   Current viewpoints and practice concerning indications for tonsillectomy
     are presented. The annual specific risk for upper respiratory infection in
     children aged up to 15 is 1.1. The risk is higher in the youngest age
     group, in whom it rises to 1.8, decreasing with age and being lowest among
     children aged 12-15 years (0.5). The proportion of tonsillitis among acute
     upper respiratory tract infections is highest in the age group up to 3
     years (36.9%); at the age of 4-5 years it is 37.1%, and is lowest among
     children aged 12-15 years (21.9%). The risk of tonsillitis caused by
     streptococci is highest among children aged up to 5 years. Statistical
     significance of differences in the synthesis of immunoglobulins (G, M, A
     and sA) and lysozymes in the palatine tonsil tissue of tonsillectomized
     children and healthy volunteers was tested by non-parametric tests for
     independent samples. Significant differences of the above mentioned
     syntheses were found in all entities studied. Any contribution to the
     documentation on the nature and cause of each tonsillitis in childhood is
     of great clinical value, because it is the only basis for rational
     consideration of indications for tonsillectomy.
ACCESSION NUMBER:    1994:315448  BIOSIS
DOCUMENT NUMBER:     PREV199497328448
TITLE:               Acute upper respiratory tract infections and indications
                     for tonsillectomy in children. I. Immunoglobulin synthesis
                     in the palatine tonsil tissue.
AUTHOR(S):           Katic, Vladimir Vvica Klapan (1); Katic, Milica;
                     Cvoriscec, Dubravka; Risavi, Ranko; Mercep, Filip Vv
                     Culoerta; Fumic, Ksenija; Fumic, Lidija; Gortan, Damir
CORPORATE SOURCE:    (1) ENT Dep., Zagreb Univ. Sch. Med., Salata 4, 41000
                     Zagreb Croatia
SOURCE:              International Journal of Pediatric Otorhinolaryngology,
                     (1994) Vol. 29, No. 3, pp. 169-178.
                     ISSN: 0165-5876.
DOCUMENT TYPE:       Article
LANGUAGE:            English

L1   ANSWER 2 OF 2  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI   The role of prostaglandins in growth of squamous head and neck cancer.
AB   In this study we systematically investigated the level of prostaglandin E
     in blood in correlation with different stages of tumor growth, as well as
     with the incidence of relapses or metastases in patients suffering from
     carcinoma of the head and neck. The level of prostaglandin E was assessed
     by radioimmunoassay test. In the 53 patients with squamous cell carcinoma
     of the head and neck the average level of prostaglandin E in blood was
     significantly increased (59.1 +- 32.4 pg/ml) in comparison with the
     patients not suffering from a malignant disease (34.6 +- 5.4; n = 12) or
     healthy controls (28.2 +- 4.9; n = 10). The level of prostaglandin E in
     patients suffering from a malignant disease was found to correlate with
     the stage of the tumor disease; the percentage of patients in whom the
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level of prostaglandin E was higher than the average +2 standard deviation was 87 in stage IV, 47 in stage III and 17 in stage II. Within 15-30 days after tumor removal the level of prostaglandin E generally decreased, but neared the control values only in stages II and III. Furthermore, this level was found to increase during relapse of the disease, mostly in patients with increased preoperative level of prostaglandin E.

ACCESSION NUMBER: 1993:96791 BIOSIS
DOCUMENT NUMBER: PREV199395051987
TITLE: The role of prostaglandins in growth of squamous head and neck cancer.
AUTHOR(S): **Katic, Vladimir Vvica Klapan (1)**; Culo, Filip; Bukovec, Zeljka; Cuk, Viseslav (1)
CORPORATE SOURCE: (1) Dep. ENT, Sch. Med., Univ. Zagreb, 41000 Zagreb
SOURCE: Acta Facultatis Medicae Fluminensis, (1992) Vol. 17, No. 1-2, pp. 7-11.
ISSN: 0065-1206.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English; Serbo-Croatian

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☐ 1. Document ID: US 6475753 B1

L7: Entry 1 of 5 File: USPT Nov 5, 2002

US-PAT-NO: 6475753
DOCUMENT-IDENTIFIER: US 6475753 B1

TITLE: 94 Human Secreted Proteins

DATE-ISSUED: November 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ruben; Steven M.	Olney	MD		
Ni; Jian	Rockville	MD		
Rosen; Craig A.	Laytonsville	MD		
Wei; Ying-Fei	Berkeley	CA		
Young; Paul	Gaithersburg	MD		
Florence; Kimberly	Rockville	MD		
Soppet; Daniel R.	Centreville	VA		
Brewer; Laurie A.	St. Paul	MN		
Endress; Gregory A.	Potomac	MD		
Carter; Kenneth C.	Potomac	MD		
Mucenski; Michael	Cincinnati	OH		
Ebner; Reinhard	Gaithersburg	MD		
Lafleur; David W.	Washington	DC		
Olsen; Henrik	Gaithersburg	MD		
Shi; Yanggu	Gaithersburg	MD		
Moore; Paul A.	Germantown	MD		
Komatsoulis; George	Silver Spring	MD		

US-CL-CURRENT: 435/69.1; 435/252.3, 435/320.1, 435/325, 435/471, 435/69.4, 435/71.1, 530/350, 536/23.5

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. Desc | Image

☐ 2. Document ID: US 6258778 B1

L7: Entry 2 of 5 File: USPT Jul 10, 2001

US-PAT-NO: 6258778
DOCUMENT-IDENTIFIER: US 6258778 B1

TITLE: Methods for accelerating bone and cartilage growth and repair

DATE-ISSUED: July 10, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rodgers; Kathleen E.	Long Beach	CA		
DiZerega; Gere S.	Pasedena	CA		

US-CL-CURRENT: 514/2; 424/185.1, 514/12, 514/21, 530/300, 530/324

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 3. Document ID: US 6171610 B1

L7: Entry 3 of 5 File: USPT Jan 9, 2001

US-PAT-NO: 6171610
DOCUMENT-IDENTIFIER: US 6171610 B1
**** See image for Certificate of Correction ****

TITLE: Guided development and support of hydrogel-cell compositions

DATE-ISSUED: January 9, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Vacanti; Charles A.	Uxbridge	MA		
Vacanti; Joseph P.	Winchester	MA		
Vacanti; Martin P.	Westborough	MA		

US-CL-CURRENT: 424/426

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 4. Document ID: US 6027744 A

L7: Entry 4 of 5 File: USPT Feb 22, 2000

US-PAT-NO: 6027744
DOCUMENT-IDENTIFIER: US 6027744 A

TITLE: Guided development and support of hydrogel-cell compositions

DATE-ISSUED: February 22, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Vacanti; Charles A.	Worcester	MA		
Vacanti; Joseph P.	Worcester	MA		

US-CL-CURRENT: 424/426; 623/13.11, 623/15.12, 623/16.11

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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☐ 5. Document ID: US 5736372 A

L7: Entry 5 of 5 File: USPT Apr 7, 1998

US-PAT-NO: 5736372
DOCUMENT-IDENTIFIER: US 5736372 A

TITLE: Biodegradable synthetic polymeric fibrous matrix containing chondrocyte for in vivo production of a cartilaginous structure

DATE-ISSUED: April 7, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Vacanti; Joseph P.	Winchester	MA		
Vacanti; Charles A.	Lexington	MA		
Langer; Robert S.	Newton	MA		

US-CL-CURRENT: 435/180; 424/422, 424/426, 424/548, 424/549, 424/93.7, 435/177, 435/178, 435/395, 435/398, 435/402

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | KWIC
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NEWS 25	Feb 26	PCTFULL now contains images
NEWS 26	Mar 04	SDI PACKAGE for monthly delivery of multifile SDI results
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=> s osteogenic protein
L1 3240 OSTEOGENIC PROTEIN

=> s BMP or bone morphogenetic protein

L2 25957 BMP OR BONE MORPHOGENETIC PROTEIN

=> s bone morphogenic protein
L3 3010 BONE MORPHOGENIC PROTEIN

=> s l2 and l3
L4 2062 L2 AND L3

=> s l1 and l4
L5 302 L1 AND L4

=> s chondrogenic proteins
L6 14 CHONDROGENIC PROTEINS

=> d l6 ti abs ibib tot

L6 ANSWER 1 OF 14 USPATFULL
TI Compositions for regeneration and repair of cartilage lesions
AB Disclosed is a cartilage repair product that induces both cell ingrowth into a bioresorbable material and cell differentiation into cartilage tissue. Such a product is useful for regenerating and/or repairing both vascular and avascular cartilage lesions, particularly articular cartilage lesions, and even more particularly mensical tissue lesions, including tears as well as segmental defects. Also disclosed is a method of regenerating and repairing cartilage lesions using such a product.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2003:26341 USPATFULL		
TITLE:	Compositions for regeneration and repair of cartilage lesions		
INVENTOR(S):	Atkinson, Brent, Lakewood, CO, United States Benedict, James J., Arvada, CO, United States		
PATENT ASSIGNEE(S):	Sulzer Biologics, Inc., Austin, TX, United States (U.S. corporation)		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6511958	B1	20030128
APPLICATION INFO.:	US 2000-505209		20000216 (9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1999-250370, filed on 16 Feb 1999 Continuation-in-part of Ser. No. WO 1998-EP5100, filed on 12 Aug 1998		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Baker, Anne-Marie		
LEGAL REPRESENTATIVE:	Sheridan Ross P.C.		
NUMBER OF CLAIMS:	41		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	14 Drawing Figure(s); 8 Drawing Page(s)		
LINE COUNT:	3437		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 2 OF 14 USPATFULL
TI Quantitative in vitro bone induction assay
AB An in vitro assay for quantifying the osteogenic capacity of bone implants involves in vitro isolation and quantitation of specific osteogenic factors. The method disclosed permits direct measurement of the osteogenic capacity of an implant to allow greater predictability of the degree to which new bone will grow in a given area. The method eliminates the need to practice the traditional technique of implanting material into a test animal and subsequently sacrificing the animal to assess bone growth associated with the implant. Since the present method does not involve animal testing, it is an extremely reproducible, rapid, and accurate method for predicting whether an implanted composition or

material will induce bone growth without the need for in vivo assays.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2003:10633 USPATFULL
TITLE:	Quantitative in vitro bone induction assay
INVENTOR(S):	Wironen, John F., Alachua, FL, UNITED STATES Jaw, Rebecca, Alachua, FL, UNITED STATES

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2003008328	A1	20030109	
APPLICATION INFO.:	US 2001-897728	A1	20010703	(9)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	McAndrews, Held, & Malloy, Ltd., Citicorp Center, 500 West Madison Street, 34th Floor, Chicago, IL, 60661
NUMBER OF CLAIMS:	36
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	19 Drawing Page(s)
LINE COUNT:	1073

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 3 OF 14 USPATFULL

TI Osteogenic devices

AB Disclosed are 1) osteogenic devices comprising a matrix containing osteogenic protein and methods of inducing endochondral bone growth in mammals using the devices; 2) amino acid sequence data, amino acid composition, solubility properties, structural features, homologies and various other data characterizing osteogenic proteins, 3) methods of producing osteogenic proteins using recombinant DNA technology, and 4) osteogenically and chondrogenically active synthetic protein constructs.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2001:168097 USPATFULL
TITLE:	Osteogenic devices
INVENTOR(S):	Oppermann, Hermann, Medway, MA, United States Kuberasampath, Thangavel, Medway, MA, United States Rueger, David C., West Roxbury, MA, United States Ozkaynak, Engin, Milford, MA, United States
PATENT ASSIGNEE(S):	Stryker Corporation, Kalamazoo, MI, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6297213	B1	20011002	
APPLICATION INFO.:	US 1998-74299		19980507	(9)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1995-417071, filed on 4 Apr 1995, now patented, Pat. No. US 5814604 Continuation of Ser. No. US 1993-145812, filed on 1 Nov 1993, now patented, Pat. No. US 5750651 Division of Ser. No. US 1992-995345, filed on 22 Dec 1992, now patented, Pat. No. US 5258494 Division of Ser. No. US 1989-315342, filed on 23 Feb 1989, now patented, Pat. No. US 5011691 Continuation-in-part of Ser. No. US 1988-232630, filed on 15 Aug 1988, now abandoned Continuation-in-part of Ser. No. US 1988-179406, filed on 8 Apr 1988, now patented, Pat. No. US 4968590			

DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Kemmerer, Elizabeth
LEGAL REPRESENTATIVE:	Testa, Hurwitz & Thibeault, LLP
NUMBER OF CLAIMS:	24
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	52 Drawing Figure(s); 30 Drawing Page(s)

LINE COUNT: 2175
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 4 OF 14 USPATFULL
TI Repair of larynx, trachea, and other fibrocartilaginous tissues
AB Provided herein are methods and devices for inducing the formation of functional replacement nonarticular cartilage tissues and ligament tissues. These methods and devices involve the use of osteogenic proteins, and are useful in repairing defects in the larynx, trachea, interarticular menisci, intervertebral discs, ear, nose, ribs and other fibrocartilaginous tissues in a mammal.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 2001:165613 USPATFULL
TITLE: Repair of larynx, trachea, and other fibrocartilaginous tissues
INVENTOR(S): Vukicevic, Slobodan, Zagreb, Croatia
Katic, Vladimir, Zagreb, Croatia
Sampath, Kuber T., Holliston, MA, United States
PATENT ASSIGNEE(S): Creative BioMolecules, Inc. (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2001024823	A1	20010927	
APPLICATION INFO.:	US 2001-828607	A1	20010406	(9)

RELATED APPLN. INFO.: Continuation of Ser. No. WO 1999-US17222, filed on 30 Jul 1999, UNKNOWN

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-103161P	19981006 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: FISH & NEAVE, 1251 AVENUE OF THE AMERICAS, 50TH FLOOR, NEW YORK, NY, 10020-1105
NUMBER OF CLAIMS: 56
EXEMPLARY CLAIM: 1
LINE COUNT: 1859
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 5 OF 14 USPATFULL
TI Nucleotide sequences encoding osteogenic proteins
AB Disclosed are 1) osteogenic devices comprising a matrix containing osteogenic protein and methods of inducing endochondral bone growth in mammals using the devices; 2) amino acid sequence data, amino acid composition, solubility properties, structural features, homologies and various other data characterizing osteogenic proteins, 3) methods of producing osteogenic proteins using recombinant DNA technology, and 4) osteogenically and chondrogenically active synthetic protein constructs.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 2001:112103 USPATFULL
TITLE: Nucleotide sequences encoding osteogenic proteins
INVENTOR(S): Oppermann, Hermann, Medway, MA, United States
Kuberasampath, Thangavel, Medway, MA, United States
Rueger, David C., West Roxbury, MA, United States
Ozkaynak, Engin, Milford, MA, United States
PATENT ASSIGNEE(S): Stryker Corporation, Kalamazoo, MI, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6261835	B1	20010717	
APPLICATION INFO.:	US 1995-375901		19950120	(8)

RELATED APPLN. INFO.: Division of Ser. No. US 1993-145812, filed on 1 Nov 1993, now patented, Pat. No. US 5750651 Division of Ser. No. US 1992-995345, filed on 22 Dec 1992, now patented, Pat. No. US 5258494 Division of Ser. No. US 1989-315342, filed on 23 Feb 1989, now patented, Pat. No. US 5011691 Continuation-in-part of Ser. No. US 1988-232630, filed on 15 Aug 1988, now abandoned Continuation-in-part of Ser. No. US 1988-179406, filed on 8 Apr 1988, now patented, Pat. No. US 4968590
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Kunz, Gary L.
ASSISTANT EXAMINER: Hayes, Robert C.
LEGAL REPRESENTATIVE: Testa, Hurwitz, Thibeault, LLP
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 52 Drawing Figure(s); 30 Drawing Page(s)
LINE COUNT: 2136
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 6 OF 14 USPATFULL
TI Hyaluronan based biodegradable scaffolds for tissue repair
AB A hyaluronic acid derivitized scaffold and method of forming are disclosed. The scaffolds are useful for various medical purposes such as tissue repair, tissue reconstruction and wound healing. In order to enhance these processes the scaffolds may be engineered to incorporate biologically active molecules such as BMP.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 1999:96274 USPATFULL
TITLE: Hyaluronan based biodegradable scaffolds for tissue repair
INVENTOR(S): Valentini, Robert F., Cranston, RI, United States
Kim, Hyun D., Providence, RI, United States
PATENT ASSIGNEE(S): Brown University, Providence, RI, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5939323		19990817	
APPLICATION INFO.:	US 1997-864709		19970528	(8)

	NUMBER	DATE	
PRIORITY INFORMATION:	US 1996-18492P	19960528	(60)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Witz, Jean C.
ASSISTANT EXAMINER: Hanley, Susan
LEGAL REPRESENTATIVE: Wolf, Greenfield & Sacks, P.C.
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 1 Drawing Page(s)
LINE COUNT: 848
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 7 OF 14 USPATFULL
TI Methods for inducing endochondral bone formation comprising administering CBMP-2A, CBMP-2B, and/or virants thereof
AB Disclosed are 1) osteogenic devices comprising a matrix containing osteogenic protein and methods of inducing endochondral bone growth in mammals using the devices; 2) amino acid sequence data, amino acid composition, solubility properties, structural features, homologies and various other data characterizing osteogenic proteins, 3) methods of

producing osteogenic proteins using recombinant DNA technology, and 4) osteogenically and chondrogenically active synthetic protein constructs.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	1998:119121 USPATFULL
TITLE:	Methods for inducing endochondral bone formation comprising administering CBMP-2A, CBMP-2B, and/or virants thereof
INVENTOR(S):	Oppermann, Hermann, Medway, MA, United States Kuberasampath, Thangavel, Medway, MA, United States Rueger, David C., West Roxbury, MA, United States Ozkaynak, Engin, Milford, MA, United States
PATENT ASSIGNEE(S):	Stryker Corporation, Natick, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5814604		19980929
APPLICATION INFO.:	US 4170717		19950404 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. 145812, filed on 1 Nov 1993 which is a division of Ser. No. 995345, filed on 22 Dec 1992, now patented, Pat. No. 5258494 which is a division of Ser. No. 315342, filed on 23 Feb 1989, now patented, Pat. No. 5011691 which is a continuation-in-part of Ser. No. 232630, filed on 15 Aug 1988, now abandoned which is a continuation-in-part of Ser. No. 179406, filed on 8 Apr 1988, now patented, Pat. No. 4968590		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Jagannathan, Vasu S.		
ASSISTANT EXAMINER:	Kemmerer, Elizabeth C.		
LEGAL REPRESENTATIVE:	Testa, Hurwitz & Thibeault, LLP		
NUMBER OF CLAIMS:	24		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	52 Drawing Figure(s); 30 Drawing Page(s)		
LINE COUNT:	2045		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 8 OF 14 USPATFULL

TI Cartilage and bone-inducing proteins

AB Disclosed are 1) osteogenic devices comprising a matrix containing osteogenic protein and methods of inducing endochondral bone growth in mammals using the devices; 2) amino acid sequence data, amino acid composition, solubility properties, structural features, homologies and various other data characterizing osteogenic proteins, 3) methods of producing osteogenic proteins using recombinant DNA technology, and 4) osteogenically and chondrogenically active synthetic protein constructs.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	1998:51727 USPATFULL
TITLE:	Cartilage and bone-inducing proteins
INVENTOR(S):	Oppermann, Hermann, Medway, MA, United States Kuberasampath, Thangavel, Medway, MA, United States Rueger, David C., West Roxbury, MA, United States Ozkaynak, Engin, Milford, MA, United States
PATENT ASSIGNEE(S):	Stryker Corporation, Kalamazoo, MI, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5750651		19980512
APPLICATION INFO.:	US 1993-145812		19931101 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1992-995345, filed on 22 Dec		

1992, now patented, Pat. No. US 5258494 which is a division of Ser. No. US 1989-315342, filed on 23 Feb 1989, now patented, Pat. No. US 5011691 which is a continuation-in-part of Ser. No. US 1988-232630, filed on 15 Aug 1988, now abandoned which is a continuation-in-part of Ser. No. US 1988-179406, filed on 8 Apr 1988, now patented, Pat. No. US 4968590

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Fitzgerald, David L.
ASSISTANT EXAMINER: Kemmerer, Elizabeth C.
LEGAL REPRESENTATIVE: Testa, Hurwitz & Thibeault, LLP
NUMBER OF CLAIMS: 18
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 52 Drawing Figure(s); 30 Drawing Page(s)
LINE COUNT: 2082
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 9 OF 14 USPATFULL
TI Method for recombinant production of osteogenic protein
AB Disclosed are 1) osteogenic devices comprising a matrix containing osteogenic protein and methods of inducing endochondral bone growth in mammals using the devices; 2) amino acid sequence data, amino acid composition, solubility properties, structural features, homologies and various other data characterizing osteogenic proteins, 3) methods of producing osteogenic proteins using recombinant DNA technology, and 4) osteogenically and chondrogenically active synthetic protein constructs.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 97:86449 USPATFULL
TITLE: Method for recombinant production of osteogenic protein
INVENTOR(S): Oppermann, Hermann, Medway, MA, United States
Kuberasampath, Thangavel, Medway, MA, United States
Rueger, David C., West Roxbury, MA, United States
Ozkaynak, Engin, Milford, MA, United States
PATENT ASSIGNEE(S): Stryker Corporation, Natick, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5670336		19970923
APPLICATION INFO.:	US 1995-376731		19950120 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1993-145812, filed on 1 Nov 1993 which is a division of Ser. No. US 1992-995345, filed on 22 Dec 1992, now patented, Pat. No. US 5258494 which is a division of Ser. No. US 1989-315342, filed on 23 Feb 1989, now patented, Pat. No. US 5011691 which is a continuation-in-part of Ser. No. US 1988-232630, filed on 15 Aug 1988, now abandoned which is a continuation-in-part of Ser. No. US 1988-179406, filed on 8 Apr 1988, now patented, Pat. No. US 4968590

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Jacobson, Dian C.
ASSISTANT EXAMINER: Kemmerer, Elizabeth C.
LEGAL REPRESENTATIVE: Testa, Hurwitz & Thibeault, LLP
NUMBER OF CLAIMS: 13
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 49 Drawing Figure(s); 30 Drawing Page(s)
LINE COUNT: 1984
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 10 OF 14 USPATFULL
TI Osteogenic proteins

AB Disclosed are 1) osteogenic devices comprising a matrix containing osteogenic protein and methods of inducing endochondral bone growth in mammals using the devices; 2) amino acid sequence data, amino acid compositions, solubility properties, structural features, homologies and various other data characterizing osteogenic proteins, 3) methods of producing osteogenic proteins using recombinant DNA technology, and 4) osteogenically and chondrogenically active synthetic protein constructs.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	94:55637 USPATFULL
TITLE:	Osteogenic proteins
INVENTOR(S):	Oppermann, Hermann, Medway, MA, United States Kuberasampath, Thangavel, Medway, MA, United States Rueger, David C., West Roxbury, MA, United States Ozkaynak, Engin, Milford, MA, United States
PATENT ASSIGNEE(S):	Stryker Corporation, Kalamazoo, MI, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5324819		19940628
APPLICATION INFO.:	US 1992-950229		19920924 (7)

RELATED APPLN. INFO.: Division of Ser. No. US 1990-621988, filed on 4 Dec 1990, now abandoned which is a division of Ser. No. US 1989-315342, filed on 23 Feb 1989, now patented, Pat. No. US 5011691 which is a continuation-in-part of Ser. No. US 1988-232630, filed on 15 Aug 1988, now abandoned which is a continuation-in-part of Ser. No. US 1988-179406, filed on 8 Apr 1988, now patented, Pat. No. US 4968590

DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Nutter, Nathan M.
LEGAL REPRESENTATIVE:	Testa, Hurwitz & Thibeault
NUMBER OF CLAIMS:	3
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	53 Drawing Figure(s); 30 Drawing Page(s)
LINE COUNT:	1864

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 11 OF 14 USPATFULL

TI Osteogenic proteins

AB Disclosed are 1) osteogenic devices comprising a matrix containing osteogenic protein and methods of inducing endochondral bone growth in mammals using the devices; 2) amino acid sequence data, amino acid composition, solubility properties, structural features, homologies and various other data characterizing osteogenic proteins, 3) methods of producing osteogenic proteins using recombinant DNA technology, and 4) osteogenically and chondrogenically active synthetic protein constructs.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	93:91748 USPATFULL
TITLE:	Osteogenic proteins
INVENTOR(S):	Oppermann, Hermann, Medway, MA, United States Kuberasampath, Thangavel, Medway, MA, United States Rueger, David C., West Roxbury, MA, United States Ozkaynak, Engin, Milford, MA, United States
PATENT ASSIGNEE(S):	Stryker Corporation, Kalamazoo, MI, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5258494		19931102
APPLICATION INFO.:	US 1992-995345		19921222 (7)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1990-621988, filed on 4 Dec 1990, now abandoned which is a division of Ser. No. US 1989-315342, filed on 23 Feb 1989, now patented, Pat. No. US 5011691 which is a continuation-in-part of Ser. No. US 1988-232630, filed on 15 Aug 1988, now abandoned which is a continuation-in-part of Ser. No. US 1988-179406, filed on 8 Apr 1988, now patented, Pat. No. US 4968590
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Nutter, Nathan M.
LEGAL REPRESENTATIVE: Testa, Hurwitz & Thibeault
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 53 Drawing Figure(s); 30 Drawing Page(s)
LINE COUNT: 1928
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 12 OF 14 USPATFULL
TI Osteogenic proteins
AB Disclosed are 1) osteogenic devices comprising a matrix containing osteogenic protein and methods of inducing endochondral bone growth in mammals using the devices; 2) amino acid sequence data, amino acid composition, solubility properties, structural features, homologies and various other data characterizing osteogenic proteins, 3) methods of producing osteogenic proteins using recombinant DNA technology, and 4) osteogenically and chondrogenically active synthetic protein constructs.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 93:7197 USPATFULL
TITLE: Osteogenic proteins
INVENTOR(S): Oppermann, Hermann, Medway, MA, United States
Kuberasampath, Thangavel, Medway, MA, United States
Rueger, David C., West Roxbury, MA, United States
Ozkaynak, Engin, Milford, MA, United States
PATENT ASSIGNEE(S): Stryker Corporation, Kalamazoo, MI, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5182365		19930126
APPLICATION INFO.:	US 1990-621988		19901204 (7)

RELATED APPLN. INFO.: Division of Ser. No. US 1989-315342, filed on 23 Feb 1989, now patented, Pat. No. US 5011691 which is a continuation-in-part of Ser. No. US 1988-232630, filed on 15 Aug 1988, now abandoned which is a continuation-in-part of Ser. No. US 1988-179406, filed on 8 Apr 1988, now patented, Pat. No. US 4968590
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Nutter, Nathan M.
LEGAL REPRESENTATIVE: Testa, Hurwitz & Thibeault
NUMBER OF CLAIMS: 16
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 41 Drawing Figure(s); 30 Drawing Page(s)
LINE COUNT: 1919
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 13 OF 14 USPATFULL
TI Osteogenic devices
AB Disclosed are (1) osteogenic devices comprising a matrix containing osteogenic protein and methods of inducing endochondral bone growth in mammals using the devices; (2) amino acid sequence data, amino acid composition, solubility properties, structural features, homologies and

various other data characterizing osteogenic proteins, (3) methods of producing osteogenic proteins using recombinant DNA technology, and (4) osteogenically and chondrogenically active synthetic protein constructs.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	91:34212 USPATFULL
TITLE:	Osteogenic devices
INVENTOR(S):	Oppermann, Hermann, Medway, MA, United States Kuberasampath, Thangavel, Medway, MA, United States Rueger, David C., West Roxbury, MA, United States Ozkaynak, Engin, Milford, MA, United States
PATENT ASSIGNEE(S):	Stryker Corporation, Kalamazoo, MI, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5011691		19910430
APPLICATION INFO.:	US 1989-315342		19890223 (7)

RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1988-232630, filed on 15 Aug 1988 which is a continuation-in-part of Ser. No. US 1988-179406, filed on 8 Apr 1988, now patented, Pat. No. US 4968590
DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Nutter, Nathan M.
LEGAL REPRESENTATIVE:	Lahive & Cockfield
NUMBER OF CLAIMS:	37
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	49 Drawing Figure(s); 28 Drawing Page(s)
LINE COUNT:	1996

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 14 OF 14 WPIDS (C) 2003 THOMSON DERWENT

TI Osteogenic devices comprising matrix contg. osteogenic protein - useful for inducing endochondral bone growth e.g. in none-union fractures.

AN 1989-324202 [44] WPIDS

CR 1989-324203 [44]; 1990-290311 [38]; 1991-148697 [20]; 1992-167101 [20]; 1992-167153 [20]; 1992-331475 [40]; 1993-100652 [12]; 1993-100993 [12]; 1993-117208 [14]; 1993-395405 [49]; 1994-007210 [01]; 1994-065304 [08]; 1994-065399 [08]; 1994-065689 [08]; 1994-118107 [14]; 1994-118121 [14]; 1994-118146 [14]; 1994-118148 [14]; 1994-167392 [20]; 1994-302971 [37]; 1994-324521 [40]; 1996-010159 [01]; 1997-178399 [16]; 1997-384665 [35]; 1998-109345 [10]; 1998-158353 [14]; 1998-260496 [23]; 1998-333785 [30]; 1999-131303 [11]; 1999-589530 [50]; 2000-038265 [03]; 2000-422077 [36]; 2001-069971 [08]; 2002-415042 [44]

AB WO 8909787 A UPAB: 20030407

Osteogenic device for implantation in a mammal comprises a biocompatible, in vivo biodegradable matrix (I), defining pores of sufficient dimension to permit influx, proliferation and differentiation of migratory progenitor cells from the body, and, disposed in the matrix and accessible to the cells, pure osteogenic protein (II), which is capable of inducing endochondrial bone formation in the mammal.

Also claimed is a DNA sequence encoding a protein which induces bone or cartilage formation when implanted in a mammal in association with a matrix. The novel DNA is duplicative of a gene of defined sequence.

(I) comprises demineralised, protein-extd., particulate, allogenic bone, or demineralised, protein-extd., particulate, deglycosylated xenogenic bone. In glycosylated form, (II) has an apparent mol. wt. of 30 kD (as determined by SDS-polyacrylamide gel electrophoresis). Redn. yields two polypeptides of mol. wts. 16 and 18 kD. In unglycosylated form, (II) has an apparent mol. wt. of 27 kD, on redn. yielding polypeptides of 14 and 16 kD.

USE/ADVANTAGE - The efficacy of bone-inducing potential of the devices was tested in cat and rabbit models and found to be potent

inducers of osteogenesis, ultimately resulting in formation of mineralised bone. Clinical applicns. include correction of acquired and congenital craniofacial and other skeletal or dental anomalies, induction of local endochondrial formation in non-union fractures, periodontal applicns. requiring bone formation, and cartilage repair, e.g. in the treatment of osteoarthritis. (II) has a half-max. bone forming activity of 0.8-1.0 ng/mg of implant.
Dwg.0/19

ABEQ US 4968590 A UPAB: 19930923
Pure mammalian osteogenic protein induces endochondral bone formation in association with a matrix upon implantation. Osteogenic protein has half max. activity of 25-50 ng per 25 mg of matrix.
Protein has apparent mol.wt. of 30kD when oxidised w.r.t. mol.wt. standards in SDS-polyacrylamide gel electrophoresis, and comprises 2 separate polypeptide chains, each of apparent mol.wt. 16kD and 18kD respectively.
USE/ADVANTAGE - Can be rapidly and reproducibly purified from mammalian bone, for bone repair procedures. @@

ABEQ US 5011691 A UPAB: 19930923
Osteogenic implant device comprises a biocompatible polymer matrix which is degradable in vivo and which contains a dispersion of osteogenic protein; such that the matrix pores allow the ingress, proliferation and differentiation of migratory progenitor cells from the bloodstream. The osteogenic protein is obtd. by expression of suitable recombinant DNA in a host cell, and comprises two polypeptide chains each with an aminoacid sequence that duplicates an adequate part of the sequence in COP-5 or COP-7, so that after dimerisation by means of disulphide linkage, the resulting conformation and the osteogenic protein together induce endochondrial bone formation.
USE - The prods. accelerate bone formation and healing.

ABEQ US 5108753 A UPAB: 19930923
Osteogenic implant for mammals comprises a biocompatible porous insoluble matrix (constructed from collagen, hydroxyapatite, tricalcium phosphate, polylactic acids, polyglycolic acids, demineralised and guanidine-free allogenic bond, or their mixts.) which allows the influx, differentiation and proliferation of migratory progenitor cells from the body; on the surface of which osteogenic protein is immobilised, with polypeptide chains bonded through disulphide linkages to form dimers having a conformation that induces endochondral bone formation.
% USE - The prods. are osteogenic implants for orthopaedic replacements and repairs.

ABEQ US 5182365 A UPAB: 19930923
Protein produced by expression of recombinant DNA in a host cell, comprising other contaminants, consists of two polypeptide chains each having less than 200 amino acids. Sequence is sufficiently duplicative of that of COP-5 or COP-7 so that the chains, when S-S bonded, has a conformation capable of inducing bore or cartilage formation in association with a matrix when implanted in a mammal.
USE/ADVANTAGE - Useful in xenogenic implants to induce osteogenesis and to repair bone and cartilage.
0/22

ABEQ US 5250302 A UPAB: 19931130
DNA sequence hybridises with characteristic DNA probe sequence, and encodes a polypeptide chain which when expressed, associates with a second polypeptide chain. Chains oxidise to form a dimeric protein species.
Dimeric protein species has a half max. bone-forming activity of 25-50 mg per 25 mg matrix upon implantation to induce endochondral bone formation in a mammal.
ADVANTAGE - Osteogenic protein is rapidly and reproducibly purified from mammalian bone. Osteogenic device prepd. repairs bone.
Dwg.0/14

ABEQ US 5258494 A UPAB: 19931220
Nucleic acid (cDNA) that encodes the prodn. of osteogenic and **chondrogenic proteins**, and plasmids and expression

vectors contg. this DNA are new. Mammalian host cells have been transformed with these expression vectors and then propogated to produce the exogenous proteins.

The proteins have Mr about 27,000-30,000; comprise a pair of polypeptide chains each contg. up to 200 aminoacid units, linked through a disulphide bridge; and are opt. glycosylated. The nucleotide sequence of the cDNA and the aminoacid sequence of the proteins have been defined.

USE - The prods. are mounted in matrixes for osteogenic implants, to induce endochondral bone and cartilage growth.

Dwg.0/22

ABEQ US 5324819 A UPAB: 19940810

Protein produced by expression of recombinant DNA comprises 2 polypeptide chains -S-S- bonded, where one has less than 200 amino acids and the sequence given in the specification. Protein induces bone and cartilage formation in assoc. with a matrix when implanted into a mammal.

USE/ADVANTAGE - For inducing full developmental cascade of endochandral bone formation and bone marrow development.

Dwg.0/3

ABEQ EP 411105 B UPAB: 19950727

A matrix for implantation in a mammalian host comprising biodegradable, biocompatible, mineral-free, delipidated Type I insoluble bone collagen particles xenogenic to said host having intraparticle pores and having a mean particle diameter within the range of 70 micron to 850 micron, said particles being substantially depleted in noncollagenous protein and treated with a collagen fibril modifying agent to increase the surface area, pore number and intrusion volume of said particles.

Dwg.0/5

ABEQ EP 362367 B UPAB: 19960329

Use of a compsn. consisting essentially of a single species of osteogenic protein as active osteogenic ingredient, the protein comprising a pair of polypeptide chains bonded in the unreduced state to form a homo- or heterodimeric species having a conformation such that the pair of polypeptide chains is capable of inducing endochondral bone formation when disposed within a matrix and implanted in a mammal, for the mfr. of a medicament for inducing endochondral bone formation.

Dwg.0/19

ABEQ US 5496552 A UPAB: 19960417

An osteogenic device for implantation in a mammal, the device comprising:

a porous biocompatible matrix; and

substantially pure osteogenic protein disposed in said matrix and comprising a pair of polypeptide chains disulphide bonded to produce a dimeric species having a conformation such that said pair of polypeptide chains is capable of inducing endochondral bone formation in a mammal when disposed within said porous matrix and implanted in a mammal.

Dwg.0/23

ABEQ US 5670336 A UPAB: 19971105

A method for producing an OP-1 protein comprising the step of transforming a cell with a vector having inserted therein a DNA sequence which encodes an amino acid sequence comprising:

LYVSFRDLGWQDWIIAPEGYAAYYCEGECAFPLNSYMNATNHAIVQTLVHFINPETVPKPCC APTQLNAISVLYFDDSSNVILKKYRNMVVRACGCH,

culturing said cells in a suitable culture medium, and isolating said OP-1 protein produced by said cell.

Dwg.0/22

ACCESSION NUMBER: 1989-324202 [44] WPIDS

CROSS REFERENCE: 1989-324203 [44]; 1990-290311 [38]; 1991-148697 [20]; 1992-167101 [20]; 1992-167153 [20]; 1992-331475 [40]; 1993-100652 [12]; 1993-100993 [12]; 1993-117208 [14]; 1993-395405 [49]; 1994-007210 [01]; 1994-065304 [08]; 1994-065399 [08]; 1994-065689 [08]; 1994-118107 [14]; 1994-118121 [14]; 1994-118146 [14]; 1994-118148 [14]; 1994-167392 [20]; 1994-302971 [37]; 1994-324521 [40]; 1996-010159 [01]; 1997-178399 [16]; 1997-384665 [35]; 1998-109345 [10]; 1998-158353 [14]; 1998-260496 [23];

1998-333785 [30]; 1999-131303 [11]; 1999-589530 [50];
2000-038265 [03]; 2000-422077 [36]; 2001-069971 [08];
2002-415042 [44]

DOC. NO. NON-CPI: N1989-246922
DOC. NO. CPI: C1989-143593
TITLE: Osteogenic devices comprising matrix contg. osteogenic protein - useful for inducing endochondral bone growth e.g. in none-union fractures.
DERWENT CLASS: A96 B04 B07 D16 D22 P13 P32 P34
INVENTOR(S): KUBERASAMPATH, T; OPPERMANN, H; OZKAYNAK, E; RUEGER, D C; RIDGE, R J; OPPERMAN, H; KUBERASAMP, T
PATENT ASSIGNEE(S): (STYC) STRYKER CORP; (CREA-N) CREATIVE BIOMOLECULES INC
COUNTRY COUNT: 33
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 8909787	A	19891019	(198944)*	EN	104
RW: AT BE CH DE FR GB IT LI LU NL OA SE					
W: AU BB BG BR DK FI HU JP KP KR LK MC MG MW NO RO SD SU US					
AU 8934449	A	19891103	(199003)		
AU 8935305	A	19891103	(199003)		
EP 362367	A	19900411	(199015)		
R: AT BE CH DE FR GB IT LI LU NL SE					
US 4968590	A	19901106	(199047)		
JP 03500655	W	19910214	(199113)		
US 5011691	A	19910430	(199119)		
JP 03502579	W	19910613	(199130)		
JP 03504736	W	19911017	(199148)		
US 5108753	A	19920428	(199220)		26
US 5182365	A	19930126	(199307)		58
US 5250302	A	19931005	(199341)		28
US 5258494	A	19931102	(199345)		56
US 5324819	A	19940628	(199425)		53
EP 411105	B1	19950621	(199529)	EN	28
R: AT BE CH DE DK ES FR GB IT LI LU NL SE					
EP 362367	B1	19960228	(199613)	EN	59
R: AT BE CH DE FR GB IT LI LU NL SE					
US 5496552	A	19960305	(199615)		27
DE 68925773	E	19960404	(199619)		
EP 714665	A2	19960605	(199627)	EN	50
R: AT BE CH DE FR GB IT LI LU NL SE					
EP 723013	A2	19960724	(199634)	EN	45
R: AT BE CH DE FR GB IT LI LU NL SE					
JP 2522568	B2	19960807	(199636)		38
JP 08187084	A	19960723	(199639)		38
CA 1338663	C	19961022	(199702)		
JP 08322570	A	19961210	(199708)		33
JP 08336390	A	19961224	(199710)		41
US 5670336	A	19970923	(199744)		53
EP 714665	A3	19971203	(199817)		
US 5750651	A	19980512	(199826)		
US 5814604	A	19980929	(199846)		
JP 2869381	B2	19990310	(199915)		37
JP 2933867	B2	19990816	(199938)		39
US 6261835	B1	20010717	(200142)		
US 6297213	B1	20011002	(200160)		
EP 1221484	A2	20020710	(200253)	EN	
R: AT BE CH DE FR GB IT LI LU NL SE					
EP 1225225	A2	20020724	(200256)	EN	
R: AT BE CH DE FR GB IT LI LU NL SE					
EP 714665	B1	20030122	(200308)	EN	
R: AT BE CH DE FR GB IT LI LU NL SE					
DE 68929453	E	20030227	(200323)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
EP 362367	A		EP 1989-904986	19890407
US 4968590	A		US 1988-179406	19880408
JP 03500655	W		JP 1989-504771	19890407
US 5011691	A		US 1989-315342	19890223
JP 03502579	W		JP 1989-504777	19890407
JP 03504736	W		JP 1990-504059	19900222
US 5108753	A		US 1990-579865	19900907
US 5182365	A	CIP of	US 1988-179406	19880408
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US 5250302	A	Div ex	US 1988-179406	19880408
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			US 1992-950229	19920924
EP 411105	B1		EP 1990-904002	19900222
			WO 1990-US912	19900222
EP 362367	B1		EP 1989-904986	19890407
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			WO 1989-US1453	19890407
EP 714665	A2	Div ex	EP 1989-904986	19890407
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EP 723013	A2	Div ex	EP 1989-904959	19890407
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JP 2522568	B2		JP 1989-504771	19890407
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US 5670336	A	CIP of	US 1988-179406	19880408
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EP 714665	A3	Div ex	EP 1989-904986	19890407
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US 5814604	A	CIP of	US 1988-179406	19880408
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		Div ex	US 1989-315342	19890223
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			US 1995-417071	19950404
JP 2869381	B2	Div ex	JP 1996-3435	19890407
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JP 2933867	B2	Div ex	JP 1989-504771	19890407
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US 6261835	B1	CIP of	US 1988-179406	19880408
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		Div ex	US 1989-315342	19890223
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			US 1998-74299	19980507
EP 1221484	A2	Div ex	EP 1989-904959	19890407
		Div ex	EP 1996-200044	19890407
			EP 2001-201555	19890407
EP 1225225	A2	Div ex	EP 1989-904986	19890407
		Div ex	EP 1995-201872	19890407
			EP 2001-201546	19890407
EP 714665	B1	Div ex	EP 1989-904986	19890407
			EP 1995-201872	19890407
		Related to	EP 2001-201546	19890407
DE 68929453	E		DE 1989-629453	19890407
			EP 1995-201872	19890407

FILING DETAILS:

PATENT NO	KIND		PATENT NO
US 5108753	A	Div ex	US 4968590
US 5182365	A	CIP of	US 4968590
		Div ex	US 5011691
US 5250302	A	Div ex	US 4968590
		Div ex	US 5108753
US 5258494	A	CIP of	US 4968590
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US 5324819	A	CIP of	US 4968590
		Div ex	US 5011691
EP 411105	B1	Based on	WO 9010018
EP 362367	B1	Based on	WO 8909787
US 5496552	A	Div ex	US 4968590
		Div ex	US 5108753
		Cont of	US 5250302
DE 68925773	E	Based on	EP 362367
		Based on	WO 8909787
JP 2522568	B2	Previous Publ.	JP 03500655
		Based on	WO 8909787
US 5670336	A	CIP of	US 4968590
		Div ex	US 5011691
		Div ex	US 5258494
EP 714665	A3	Div ex	EP 362367

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     US 5750651    A  CIP of           US 4968590
                      Div ex           US 5011691
                      Div ex           US 5258494
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                      Div ex           US 5258494
     JP 2869381    B2 Previous Publ.   JP 08322570
     JP 2933867    B2 Previous Publ.   JP 08336390
     US 6261835    B1 CIP of           US 4968590
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     US 6297213    B1 CIP of           US 4968590
                      Div ex           US 5011691
                      Div ex           US 5258494
                      Cont of          US 5750651
                      Cont of          US 5814604
     EP 1221484    A2 Div ex           EP 372031
                      Div ex           EP 723013
     EP 1225225    A2 Div ex           EP 362367
                      Div ex           EP 714665
     EP 714665     B1 Related to       EP 1225225
                      Div ex           EP 362367
     DE 68929453   E  Based on         EP 714665

PRIORITY APPLN. INFO: US 1989-315342   19890223; US 1988-179406
                      19880408; US 1988-232630   19880815; US
                      1990-579865   19900907; US 1990-621988
                      19901204; US 1992-827052   19920128; US
                      1992-995345   19921222; US 1992-950229
                      19920924; US 1989-422613   19891017; US
                      1993-103604   19930806; US 1994-268252
                      19940629; US 1993-145812   19931101; US
                      1995-376731   19950120; US 1995-417071
                      19950404; US 1995-375901   19950120; US
                      1998-74299    19980507


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     (FILE 'HOME' ENTERED AT 10:26:49 ON 28 APR 2003)

     FILE 'MEDLINE, USPATFULL, DGENE, EMBASE, SCISEARCH, FSTA, BIOSIS,
     BIOBUSINESS, WPIDS, CEABA-VTB, JAPIO, JICST-EPLUS' ENTERED AT 10:27:23 ON
     28 APR 2003
L1          3240 S OSTEOGENIC PROTEIN
L2         25957 S BMP OR BONE MORPHOGENETIC PROTEIN
L3          3010 S BONE MORPHOGENIC PROTEIN
L4          2062 S L2 AND L3
L5           302 S L1 AND L4
L6            14 S CHONDROGENIC PROTEINS

=> s cartilage replacement
L7          237 CARTILAGE REPLACEMENT

=> s l7 and l5
L8            1 L7 AND L5

=> d l8 ti abs ibib tot

L8   ANSWER 1 OF 1  USPATFULL
TI     Compositions and methods for the repair and construction of bone and
       other tissue
AB     The invention relates to novel compositions comprising genetically
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engineered cells and one or more polymers. In an additional aspect, the present invention relates to a method for repairing tissue, for example, cranioskeletal or maxillary bone defects, comprising tranducing the **BMP**-2 gene into bone marrow stromal cells which are harvested from a subject, combining the genetically engineered cells with at least one polymer, and implanting the combination at the site of the defect. The **BMP**-2 protein is advantageously produced as long as the tranduced gene stays in the cells.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2002:322028 USPATFULL
TITLE:	Compositions and methods for the repair and construction of bone and other tissue
INVENTOR(S):	Chang, Chia Ning (Sophia), Taipei, TAIWAN, PROVINCE OF CHINA

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2002182189	A1	20021205	
APPLICATION INFO.:	US 2001-837217	A1	20010419	(9)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	Joseph A. Mahoney, MAYER, BROWN & PLATT, P.O. Box 2828, Chicago, IL, 60690-2828
NUMBER OF CLAIMS:	10
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	19 Drawing Page(s)
LINE COUNT:	815

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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=> s BMP-5
L9         851 BMP-5

=> s l9 and l7
L10          2 L9 AND L7

=> d l10 ti abs ibib tot
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L10 ANSWER 1 OF 2 USPATFULL

TI Device and method for regeneration and repair of cartilage lesions

AB Disclosed is a cartilage repair product that induces both cell ingrowth into a bioresorbable material and cell differentiation into cartilage tissue. Such a product is useful for regenerating and/or repairing both vascular and avascular cartilage lesions, particularly articular cartilage lesions, and even more particularly mensical tissue lesions, including tears as well as segmental defects. Also disclosed is a method of regenerating and repairing cartilage lesions using such a product.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2003:33183 USPATFULL
TITLE:	Device and method for regeneration and repair of cartilage lesions
INVENTOR(S):	Atkinson, Brent, Lakewood, CO, United States Benedict, James J., Arvada, CO, United States
PATENT ASSIGNEE(S):	Sulzer Biologics Inc., Austin, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6514514	B1	20030204	
APPLICATION INFO.:	US 1999-250370		19990216	(9)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. WO 1998-EP5100, filed on 12 Aug 1998			

	NUMBER	DATE
PRIORITY INFORMATION:	EP 1997-810567	19970814

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Baker, Anne-Marie
LEGAL REPRESENTATIVE: Sheridan Ross P.C.
NUMBER OF CLAIMS: 58
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 14 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT: 2122
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L10 ANSWER 2 OF 2 USPATFULL
TI Compositions for regeneration and repair of cartilage lesions
AB Disclosed is a cartilage repair product that induces both cell ingrowth into a bioresorbable material and cell differentiation into cartilage tissue. Such a product is useful for regenerating and/or repairing both vascular and avascular cartilage lesions, particularly articular cartilage lesions, and even more particularly mensical tissue lesions, including tears as well as segmental defects. Also disclosed is a method of regenerating and repairing cartilage lesions using such a product.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 2003:26341 USPATFULL
TITLE: Compositions for regeneration and repair of cartilage lesions
INVENTOR(S): Atkinson, Brent, Lakewood, CO, United States
Benedict, James J., Arvada, CO, United States
PATENT ASSIGNEE(S): Sulzer Biologics, Inc., Austin, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6511958	B1	20030128
APPLICATION INFO.:	US 2000-505209		20000216 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1999-250370, filed on 16 Feb 1999 Continuation-in-part of Ser. No. WO 1998-EP5100, filed on 12 Aug 1998
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Baker, Anne-Marie
LEGAL REPRESENTATIVE: Sheridan Ross P.C.
NUMBER OF CLAIMS: 41
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 14 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT: 3437
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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(FILE 'HOME' ENTERED AT 10:26:49 ON 28 APR 2003)

FILE 'MEDLINE, USPATFULL, DGENE, EMBASE, SCISEARCH, FSTA, BIOSIS, BIOBUSINESS, WPIDS, CEABA-VTB, JAPIO, JICST-EPLUS' ENTERED AT 10:27:23 ON 28 APR 2003

L1	3240	S	OSTEOGENIC PROTEIN
L2	25957	S	BMP OR BONE MORPHOGENETIC PROTEIN
L3	3010	S	BONE MORPHOGENIC PROTEIN
L4	2062	S	L2 AND L3
L5	302	S	L1 AND L4
L6	14	S	CHONDROGENIC PROTEINS

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L7          237 S CARTILAGE REPLACEMENT
L8            1 S L7 AND L5
L9          851 S BMP-5
L10           2 S L9 AND L7

=> s bmp-3
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L11         762 BMP-3

=> s l11 and l7
L12           2 L11 AND L7

=> d l12 ti abs ibib tot

L12  ANSWER 1 OF 2  USPATFULL
TI     Device and method for regeneration and repair of cartilage lesions
AB     Disclosed is a cartilage repair product that induces both cell ingrowth
       into a bioresorbable material and cell differentiation into cartilage
       tissue. Such a product is useful for regenerating and/or repairing both
       vascular and avascular cartilage lesions, particularly articular
       cartilage lesions, and even more particularly mensical tissue lesions,
       including tears as well as segmental defects. Also disclosed is a method
       of regenerating and repairing cartilage lesions using such a product.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER:       2003:33183  USPATFULL
TITLE:                  Device and method for regeneration and repair of
                        cartilage lesions
INVENTOR(S):            Atkinson, Brent, Lakewood, CO, United States
                        Benedict, James J., Arvada, CO, United States
PATENT ASSIGNEE(S):     Sulzer Biologics Inc., Austin, TX, United States (U.S.
                        corporation)

                             NUMBER        KIND    DATE
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PATENT INFORMATION:     US 6514514          B1   20030204
APPLICATION INFO.:      US 1999-250370           19990216  (9)
RELATED APPLN. INFO.:   Continuation-in-part of Ser. No. WO 1998-EP5100, filed
                        on 12 Aug 1998

                               NUMBER         DATE
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PRIORITY INFORMATION:   EP 1997-810567     19970814
DOCUMENT TYPE:          Utility
FILE SEGMENT:           GRANTED
PRIMARY EXAMINER:       Baker, Anne-Marie
LEGAL REPRESENTATIVE:   Sheridan Ross P.C.
NUMBER OF CLAIMS:       58
EXEMPLARY CLAIM:        1
NUMBER OF DRAWINGS:     14 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT:             2122
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L12  ANSWER 2 OF 2  USPATFULL
TI     Compositions for regeneration and repair of cartilage lesions
AB     Disclosed is a cartilage repair product that induces both cell ingrowth
       into a bioresorbable material and cell differentiation into cartilage
       tissue. Such a product is useful for regenerating and/or repairing both
       vascular and avascular cartilage lesions, particularly articular
       cartilage lesions, and even more particularly mensical tissue lesions,
       including tears as well as segmental defects. Also disclosed is a method
       of regenerating and repairing cartilage lesions using such a product.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
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ACCESSION NUMBER: 2003:26341 USPATFULL
TITLE: Compositions for regeneration and repair of cartilage lesions
INVENTOR(S): Atkinson, Brent, Lakewood, CO, United States
Benedict, James J., Arvada, CO, United States
PATENT ASSIGNEE(S): Sulzer Biologics, Inc., Austin, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6511958	B1	20030128
APPLICATION INFO.:	US 2000-505209		20000216 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1999-250370, filed on 16 Feb 1999 Continuation-in-part of Ser. No. WO 1998-EP5100, filed on 12 Aug 1998
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Baker, Anne-Marie
LEGAL REPRESENTATIVE: Sheridan Ross P.C.
NUMBER OF CLAIMS: 41
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 14 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT: 3437
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d his

(FILE 'HOME' ENTERED AT 10:26:49 ON 28 APR 2003)

FILE 'MEDLINE, USPATFULL, DGENE, EMBASE, SCISEARCH, FSTA, BIOSIS, BIOBUSINESS, WPIDS, CEABA-VTB, JAPIO, JICST-EPLUS' ENTERED AT 10:27:23 ON 28 APR 2003

L1	3240	S	OSTEOGENIC PROTEIN
L2	25957	S	BMP OR BONE MORPHOGENETIC PROTEIN
L3	3010	S	BONE MORPHOGENIC PROTEIN
L4	2062	S	L2 AND L3
L5	302	S	L1 AND L4
L6	14	S	CHONDROGENIC PROTEINS
L7	237	S	CARTILAGE REPLACEMENT
L8	1	S	L7 AND L5
L9	851	S	BMP-5
L10	2	S	L9 AND L7
L11	762	S	BMP-3
L12	2	S	L11 AND L7

=> s l5 and cartilage repair
L13 14 L5 AND CARTILAGE REPAIR

=> d l13 ti abs ibib tot

L13 ANSWER 1 OF 14 USPATFULL
TI Matrix-free osteogenic devices, implants and methods of use thereof
AB Provided herein are methods for inducing bone formation in a mammal sufficient to fill a defect defining a void, wherein **osteogenic protein** is provided alone or dispersed in a biocompatible non-rigid, amorphous carrier having no defined surfaces. The methods and devices provide injectable formulations for filling critical size defects, as well as for accelerating the rate and enhancing the quality of bone formation in non-critical size defects.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 2002:172320 USPATFULL
TITLE: Matrix-free osteogenic devices, implants and methods of

use thereof
INVENTOR(S): Rueger, David C., Southborough, MA, UNITED STATES
Tucker, Marjorie M., Holliston, MA, UNITED STATES
PATENT ASSIGNEE(S): STRYKER CORPORATION (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002091077	A1	20020711
	US 6426332	B2	20020730
APPLICATION INFO.:	US 2001-887901	A1	20010622 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1998-19339, filed on 5 Feb 1998, UNKNOWN
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: FISH & NEAVE, 1251 AVENUE OF THE AMERICAS, 50TH FLOOR, NEW YORK, NY, 10020-1105
NUMBER OF CLAIMS: 37
EXEMPLARY CLAIM: 1
LINE COUNT: 2801
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 2 OF 14 USPATFULL
TI Generating cartilage in a mammal using fibroblasts transfected with a vector encoding TGF-.beta.-1
AB The subject invention is related to a cell-mediated gene therapy treatment for orthopedic disease using a member belonging to the transforming growth factor-.beta. (TGF-.beta.) superfamily. TGF-.beta. gene therapy as a new treatment method for degenerative arthritis is demonstrated. After transfection of TGF-.beta. cDNA expression vectors into fibroblasts (NIH 3T3-TGF-.beta.1), the cells were injected into rabbit achilles tendon and knee joints with artificially-made cartilage defects. Intratendinous injections were performed to determine the optimal concentration for in vivo expression. Partially defected cartilage model was made to simulate degenerative arthritis of the knee joint. The partial cartilage defect treated with the cell-mediated gene therapy procedure was covered by newly formed hyaline cartilage which indicates that the cells survived and stimulated matrix formation in this area. Completely denuded cartilage areas were covered by fibrous collagen.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 2001:202190 USPATFULL
TITLE: Generating cartilage in a mammal using fibroblasts transfected with a vector encoding TGF-.beta.-1
INVENTOR(S): Noh, Moon Jong, Kyunggi-Do, Korea, Republic of
Kang, Kyoung Ae, Kyunggi-Do, Korea, Republic of
Lee, Kwan Hee, Seoul, Korea, Republic of
PATENT ASSIGNEE(S): TissueGene Co., Gaithersburg, MD, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6315992	B1	20011113
APPLICATION INFO.:	US 1999-345415		19990630 (9)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Clark, Deborah J. R.
ASSISTANT EXAMINER: Wilson, Michael C.
LEGAL REPRESENTATIVE: Squire, Sanders & Dempsey LLP., Kim, Joseph Hyosuk
NUMBER OF CLAIMS: 9
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 24 Drawing Figure(s); 9 Drawing Page(s)
LINE COUNT: 1136
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 3 OF 14 USPATFULL
TI Matrix-free osteogenic devices, implants and methods of use thereof
AB Provided herein are methods for inducing bone formation in a mammal sufficient to fill a defect defining a void, wherein **osteogenic protein** is provided alone or dispersed in a biocompatible non-rigid, amorphous carrier having no defined surfaces. The methods and devices provide injectable formulations for filling critical size defects, as well as for accelerating the rate and enhancing the quality of bone formation in non-critical size defects.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2001:142331 USPATFULL		
TITLE:	Matrix-free osteogenic devices, implants and methods of use thereof		
INVENTOR(S):	Rueger, David C., Southborough, MA, United States Tucker, Marjorie M., Holliston, MA, United States		
PATENT ASSIGNEE(S):	Stryker Corporation, Kalamazoo, MI, United States (U.S. corporation)		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6281195	B1	20010828
APPLICATION INFO.:	US 1998-19339		19980205 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	GRANTED		
PRIMARY EXAMINER:	Russel, Jeffrey E.		
LEGAL REPRESENTATIVE:	Fish & Neave, Haley, Jr., James F., Mangasarian, Karen		
NUMBER OF CLAIMS:	25		
EXEMPLARY CLAIM:	1		
LINE COUNT:	2501		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 4 OF 14 USPATFULL
TI OSTEOGENIC DEVICES AND METHODS OF USE THEREOF FOR REPAIR OF ENDOCHONDRAL BONE, OSTEOCHONDRAL AND CHONDRAL DEFECTS
AB Disclosed herein are improved osteogenic devices and methods of use thereof for repair of bone and cartilage defects. The devices and methods promote accelerated formation of repair tissue with enhanced stability using less **osteogenic protein** than devices in the art. Defects susceptible to repair with the instant invention include, but are not limited to: critical size defects, non-critical size defects, non-union fractures, fractures, osteochondral defects, subchondral defects, and defects resulting from degenerative diseases such as osteochondritis dessicans.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2001:139603 USPATFULL		
TITLE:	OSTEOGENIC DEVICES AND METHODS OF USE THEREOF FOR REPAIR OF ENDOCHONDRAL BONE, OSTEOCHONDRAL AND CHONDRAL DEFECTS		
INVENTOR(S):	RUEGER, DAVID C., SOUTHBOROUGH, MA, United States TUCKER, MARJORIE A., HOLLISTON, MA, United States CHANG, AN-CHENG, WESTBOROUGH, MA, United States		
	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2001016646	A1	20010823
APPLICATION INFO.:	US 1998-45331	A1	19980320 (9)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	APPLICATION		
LEGAL REPRESENTATIVE:	PATENT ADMINISTATOR, TESTA HURWITZ & THIBEAULT, LLP, HIGH STREET TOWER, 125 HIGH STREET, BOSTON, MA, 02110		
NUMBER OF CLAIMS:	49		

EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Page(s)
LINE COUNT: 5269
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 5 OF 14 USPATFULL
TI IMPROVED OSTEOGENIC DEVICES AND METHODS OF USE THEREOF FOR REPAIR OF ENDOCHONDRAL BONE AND OSTEOCHONDRAL DEFECTS
AB Disclosed herein are improved osteogenic devices and methods of use thereof for repair of bone and cartilage defects. The devices and methods promote accelerated formation of repair tissue with enhanced stability using less **osteogenic protein** than devices in the art. Defects susceptible to repair with the instant invention include, but are not limited to: critical size defects, non-critical size defects, non-union fractures, fractures, osteochondral defects, subchondral defects, and defects resulting from degenerative diseases such as osteochondritis dessicans.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 2001:134213 USPATFULL
TITLE: IMPROVED OSTEOGENIC DEVICES AND METHODS OF USE THEREOF FOR REPAIR OF ENDOCHONDRAL BONE AND OSTEOCHONDRAL DEFECTS
INVENTOR(S): RUEGER, DAVID C, SOUTHBOROUGH, MA, United States
TUCKER, MARJORIE A, HOLLISTON, MA, United States

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 2001014662	A1	20010816	
APPLICATION INFO.:	US 1997-822186	A1	19970320	(8)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: JAMES F. HALEY, FISH & NEAVE, 1251 AVENUE OF THE AMERICAS, NEW YORK, NY, 100201104
NUMBER OF CLAIMS: 34
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Page(s)
LINE COUNT: 4425
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 6 OF 14 USPATFULL
TI Methods and compositions for the treatment and repair of defects or lesions in cartilage or bone using functional barrier
AB Methods and compositions are provided for the treatment and repair of defects in the cartilage or bone of humans and other animals as in full-thickness defects in joints. To induce cartilage formation, a defect in cartilage is filled with a matrix having pores sufficiently large to allow **cartilage repair** cells to populate the matrix. The matrix contains an anti-angiogenic agent that serves as a functional barrier to prevent vascularization and bone growth into the cartilage area. The matrix filling the defect in cartilage may also contain a proliferation agent and a chemotactic agent, and a transforming factor in an appropriate delivery system. A functional barrier between the bone and cartilage areas of a full-thickness defect may also be created by heat-treating the areas of bleeding to form a transient tissue barrier which prevents blood vessels and associated cells from penetrating from the bone area into the cartilage area. If desired, the bone portion of the full-thickness defect may be filled with a matrix having pores large enough to allow cells to populate the matrix and to form blood vessels. The matrix filling the bone defect may contain an angiogenic factor and an osteogenic factor in an appropriate delivery system. Methods and compositions are also provided for assisted bone and connective tissue regeneration for dental and other applications.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 1998:162021 USPATFULL
TITLE: Methods and compositions for the treatment and repair of defects or lesions in cartilage or bone using functional barrier
INVENTOR(S): Hunziker, Ernst B., Riedholz, Switzerland
PATENT ASSIGNEE(S): Shaw, Robert Francis, Sausalito, CA, United States (U.S. individual)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5853746		19981229
APPLICATION INFO.:	US 1996-672618		19960628 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1995-524034, filed on 6 Sep 1995, now abandoned which is a continuation of Ser. No. US 1994-338126, filed on 1 Nov 1994, now abandoned which is a continuation of Ser. No. US 1992-979904, filed on 23 Nov 1992, now patented, Pat. No. US 5368858 which is a division of Ser. No. US 1991-648274, filed on 31 Jan 1991, now patented, Pat. No. US 5206023
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Azpuru, Carlos A.
LEGAL REPRESENTATIVE: Fish & Neave, Massaro, Jane A., Rosen, Mark J.
NUMBER OF CLAIMS: 30
EXEMPLARY CLAIM: 1
LINE COUNT: 1673
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 7 OF 14 USPATFULL
TI Methods and compositions for the treatment and repair of defects or lesions in cartilage or bone
AB Methods and compositions are provided for the treatment and repair of defects in the cartilage or bone of humans and other animals as in full-thickness defects in joints. The defect in bone is filled with a matrix having pores large enough to allow cells to populate the matrix and to form blood vessels. The matrix filling the bone defect contains an angiogenic factor and also contains an osteogenic factor in an appropriate delivery system. To induce cartilage formation, a defect in cartilage is filled with a matrix having pores sufficiently large to allow **cartilage repair** cells to populate the matrix. The matrix filling the defect in cartilage contains a proliferation agent and also contains a transforming factor in an appropriate delivery system. The matrix may also contain a chemotactic agent to attract **cartilage repair** cells. In a full-thickness defect, the defect sites in bone and cartilage are separated from each other by a membrane, which is sealed to the cartilage-bone-junction and which prevents blood vessels and associated cells from penetrating from one site to the other.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
ACCESSION NUMBER: 93:104945 USPATFULL
TITLE: Methods and compositions for the treatment and repair of defects or lesions in cartilage or bone
INVENTOR(S): Hunziker, Ernst B., Riedholz, Switzerland
PATENT ASSIGNEE(S): Shaw, Robert Francis, San Francisco, CA, United States (U.S. individual)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5270300		19931214
APPLICATION INFO.:	US 1991-756164		19910906 (7)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Griffin, Ronald W.
LEGAL REPRESENTATIVE: Mullowney, Edward F., Massaro, Jane A.
NUMBER OF CLAIMS: 26
EXEMPLARY CLAIM: 1,10
LINE COUNT: 1089
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L13 ANSWER 8 OF 14 DGENE (C) 2003 THOMSON DERWENT
TI Implant for inducing local bone or cartilage formation, comprising osteogenic proteins, non-synthetic polymeric matrixes and binding agents -

AN AAB82698 Protein DGENE
AB The present sequence is that of **osteogenic protein** generic sequence 8, which accommodates the homologies shared between osteogenic proteins OP-1, OP-2, OP-3, CBMP-2A, CBMP-2B, **bone morphogenic protein** (**BMP**)-3, Drosophila protein 60A, DPP, Vgl, **BMP**-5, **BMP**-6, Vgr-1 and GDF-1. The generic sequence includes a 7 cysteine domain, providing an appropriate cysteine skeleton for the formation of inter- or intramolecular disulfide bonds, and also includes certain critical amino acids likely to influence the tertiary structure of folded proteins. Provision of an 8th cysteine residue at position 41 encompasses the morphogenically active sequences of OP-2 and OP-3. Proteins based on the present sequence can be used in novel osteogenic devices of the invention. The invention is based on the discovery that admixing **osteogenic protein** and a non-synthetic, non-polymeric matrix such as collagen or beta-tricalcium phosphate with a binding agent yields an improved osteogenic device with enhanced bone and **cartilage repair** capabilities. The osteogenic devices promote accelerated formation of repair tissue with enhanced stability using less **osteogenic protein** than previous devices. Defects susceptible to repair include critical size defects, non-critical size defects, non-union fractures, fractures, osteochondral defects and subchondral defects (claimed), and defects resulting from degenerative diseases such as osteochondritis desiccans.

ACCESSION NUMBER: AAB82698 Protein DGENE
TITLE: Implant for inducing local bone or cartilage formation, comprising osteogenic proteins, non-synthetic polymeric matrixes and binding agents -
INVENTOR: Rueger D C; Tucker M A; Chang A
PATENT ASSIGNEE: (RUEG-I) RUEGER D C.
(TUCK-I) TUCKER M A.
(CHAN-I) CHANG A.
PATENT INFO: US 2001016646 A1 20010823 59p
APPLICATION INFO: US 1998-45331 19980320
PRIORITY INFO: US 1998-45331 19980320
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2001-513983 [56]
DESCRIPTION: **Osteogenic protein** generic sequence 8.

L13 ANSWER 9 OF 14 DGENE (C) 2003 THOMSON DERWENT
TI Implant for inducing local bone or cartilage formation, comprising osteogenic proteins, non-synthetic polymeric matrixes and binding agents -

AN AAB82697 Protein DGENE
AB The present sequence is that of **osteogenic protein** generic sequence 7, which accommodates the homologies shared between osteogenic proteins OP-1, OP-2, OP-3, CBMP-2A, CBMP-2B, **bone morphogenic protein** (**BMP**)-3, Drosophila protein 60A, DPP, Vgl, **BMP**-5, **BMP**-6, Vgr-1 and GDF-1. The generic sequence includes a 6 cysteine domain, providing an

appropriate cysteine skeleton for the formation of inter- or intramolecular disulfide bonds, and also includes certain critical amino acids likely to influence the tertiary structure of folded proteins. Provision of a 7th cysteine residue at position 36 encompasses the morphogenically active sequences of OP-2 and OP-3. Proteins based on the present sequence can be used in novel osteogenic devices of the invention. The invention is based on the discovery that admixing **osteogenic protein** and a non-synthetic, non-polymeric matrix such as collagen or beta-tricalcium phosphate with a binding agent yields an improved osteogenic device with enhanced bone and **cartilage repair** capabilities. The osteogenic devices promote accelerated formation of repair tissue with enhanced stability using less **osteogenic protein** than previous devices. Defects susceptible to repair include critical size defects, non-critical size defects, non-union fractures, fractures, osteochondral defects and subchondral defects (claimed), and defects resulting from degenerative diseases such as osteochondritis desiccans.

ACCESSION NUMBER: AAB82697 Protein DGENE
TITLE: Implant for inducing local bone or cartilage formation, comprising osteogenic proteins, non-synthetic polymeric matrixes and binding agents -
INVENTOR: Rueger D C; Tucker M A; Chang A
PATENT ASSIGNEE: (RUEG-I) RUEGER D C.
(TUCK-I) TUCKER M A.
(CHAN-I) CHANG A.
PATENT INFO: US 2001016646 A1 20010823 59p
APPLICATION INFO: US 1998-45331 19980320
PRIORITY INFO: US 1998-45331 19980320
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2001-513983 [56]
DESCRIPTION: **Osteogenic protein** generic sequence 7.

L13 ANSWER 10 OF 14 DGENE (C) 2003 THOMSON DERWENT
TI Implant for inducing local bone or cartilage formation, comprising osteogenic proteins, non-synthetic polymeric matrixes and binding agents -

AN AAB82695 Protein DGENE
AB The present sequence is that of human **osteogenic protein** OP-1. The invention is based on the discovery that admixing **osteogenic protein** and a non-synthetic, non-polymeric matrix such as collagen or beta-tricalcium phosphate with a binding agent yields an improved osteogenic device with enhanced bone and **cartilage repair** capabilities. The **osteogenic protein** may be OP-1, OP-2, **bone morphogenic protein** (**BMP**)-2, **BMP**-4, **BMP**-5, **BMP**-6, **BMP**-9, **BMP**-10, **BMP**-11, **BMP**-12, **BMP**-15, **BMP**-16, DPP, Vgl, Vgr, 60A protein, GDF1, GDF3, GDF5, GDF6, GDF7, GDF8, GDF9, GDF10, GDF11, or their variants, and is especially OP-1. The osteogenic devices promote accelerated formation of repair tissue with enhanced stability using less **osteogenic protein** than previous devices. Defects susceptible to repair include critical size defects, non-critical size defects, non-union fractures, fractures, osteochondral defects and subchondral defects (claimed), and defects resulting from degenerative diseases such as osteochondritis desiccans.

ACCESSION NUMBER: AAB82695 Protein DGENE
TITLE: Implant for inducing local bone or cartilage formation, comprising osteogenic proteins, non-synthetic polymeric matrixes and binding agents -
INVENTOR: Rueger D C; Tucker M A; Chang A
PATENT ASSIGNEE: (RUEG-I) RUEGER D C.
(TUCK-I) TUCKER M A.
(CHAN-I) CHANG A.

PATENT INFO: US 2001016646 A1 20010823 59p
APPLICATION INFO: US 1998-45331 19980320
PRIORITY INFO: US 1998-45331 19980320
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2001-513983 [56]
CROSS REFERENCES: N-PSDB: AAH26404
DESCRIPTION: Human **osteogenic protein** OP-1.

L13 ANSWER 11 OF 14 DGENE (C) 2003 THOMSON DERWENT
TI Implant for inducing local bone or cartilage formation, comprising osteogenic proteins, non-synthetic polymeric matrixes and binding agents -
AN AAH26404 cDNA DGENE
AB The present sequence is that of cDNA encoding human **osteogenic protein** OP-1 (see AAB82695). The invention is based on the discovery that admixing **osteogenic protein** and a non-synthetic, non-polymeric matrix such as collagen or beta-tricalcium phosphate with a binding agent yields an improved osteogenic device with enhanced bone and **cartilage repair** capabilities. The **osteogenic protein** may be OP-1, OP-2, **bone morphogenic protein** (**BMP**)-2, **BMP**-4, **BMP**-5, **BMP**-6, **BMP**-9, **BMP**-10, **BMP**-11, **BMP**-12, **BMP**-15, **BMP**-16, DPP, Vgl, Vgr, 60A protein, GDF1, GDF3, GDF5, GDF6, GDF7, GDF8, GDF9, GDF10, GDF11, or their variants, and is especially OP-1. The osteogenic devices promote accelerated formation of repair tissue with enhanced stability using less **osteogenic protein** than previous devices. Defects susceptible to repair include critical size defects, non-critical size defects, non-union fractures, fractures, osteochondral defects and subchondral defects (claimed), and defects resulting from degenerative diseases such as osteochondritis desiccans.
ACCESSION NUMBER: AAH26404 cDNA DGENE
TITLE: Implant for inducing local bone or cartilage formation, comprising osteogenic proteins, non-synthetic polymeric matrixes and binding agents -
INVENTOR: Rueger D C; Tucker M A; Chang A
PATENT ASSIGNEE: (RUEG-I) RUEGER D C.
(TUCK-I) TUCKER M A.
(CHAN-I) CHANG A.
PATENT INFO: US 2001016646 A1 20010823 59p
APPLICATION INFO: US 1998-45331 19980320
PRIORITY INFO: US 1998-45331 19980320
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2001-513983 [56]
CROSS REFERENCES: P-PSDB: AAB82695
DESCRIPTION: Human **osteogenic protein** OP-1 cDNA.

L13 ANSWER 12 OF 14 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI Enhanced matrix synthesis and in vitro formation of cartilage-like tissue by genetically modified chondrocytes expressing **BMP**-7.
AB **Bone morphogenic protein**-7 (**BMP**-7) supports ectopic cartilage and bone formation, is expressed in normal articular cartilage, and increases matrix synthesis in chondrocytes. Based on this knowledge, we hypothesized that an adenovirus (Ad) vector encoding human **BMP**-7 could be used to modify chondrocytes genetically to improve their capacity for **cartilage repair**. An adenovirus vector encoding **BMP**-7 (AdBMP-7) was constructed and its bioactivity confirmed by ectopic bone formation assay. AdBMP-7 modification of bovine chondrocytes induced expression of **BMP**-7 mRNA and bioactive protein, resulting in an increase in incorporation of (35)SO(-)(4) into proteoglycan, (3)H-proline uptake into protein, and the expression of the cartilage-specific matrix genes, aggrecan and type II

collagen. An in vitro model of chondrocyte transplantation was used to demonstrate the feasibility of using genetically modified chondrocytes to enhance formation of cartilage-like tissue. When transplanted onto cartilage explants and maintained in vitro for 3 weeks, chondrocytes modified with AdBMP-7 formed 1.9-fold thicker tissue than chondrocytes modified with a control vector ($P < 0.001$). This tissue was positive for type II collagen and proteoglycan but negative for type X collagen and demonstrated a cartilage-like morphology. These observations suggest that Ad-mediated transfer of **BMP**-7 gene to chondrocytes enhances the chondrocyte-specific matrix synthesis and their capacity to form cartilage-like tissue, thus representing a strategy that may improve cell-based **cartilage repair**.

ACCESSION NUMBER: 2001305182 EMBASE
TITLE: Enhanced matrix synthesis and in vitro formation of cartilage-like tissue by genetically modified chondrocytes expressing **BMP**-7.
AUTHOR: Hidaka C.; Quitoriano M.; Warren R.F.; Crystal R.G.
CORPORATE SOURCE: C. Hidaka, Institute of Genetic Medicine, Weill Medical Coll. of Cornell Univ., New York, NY 10021, United States. geneticmedicine@mail.med.cornell.edu
SOURCE: Journal of Orthopaedic Research, (2001) 19/5 (751-758). Refs: 40
ISSN: 0736-0266 CODEN: JOREDR
PUBLISHER IDENT.: S 0736-0266(01)00019-5
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 004 Microbiology
022 Human Genetics
029 Clinical Biochemistry
033 Orthopedic Surgery
LANGUAGE: English
SUMMARY LANGUAGE: English

L13 ANSWER 13 OF 14 EMBASE

TI Expression of human **bone morphogenic protein** 7 in primary rabbit periosteal cells: Potential utility in gene therapy for osteochondral repair.

AB A commonly encountered problem in orthopedics is bone and cartilage tissue injury which heals incompletely or without full structural integrity. This necessitates development of improved methods for treatment of injuries which are not amenable to treatment using current therapies. An already large and growing number of growth factors which play significant roles in bone remodeling and repair have been identified in the past few years. It is well established that bone morphogenic proteins induce the production of new bone and cartilage. An efficient method of delivery of these growth factors by conventional pharmacological means has yet to be elucidated. We wished to evaluate the use of retroviral vector-mediated gene transfer to deliver genes of therapeutic relevance for bone and **cartilage repair**. To determine the feasibility of using amphotropically packaged retroviral vectors to transduce primary rabbit mesenchymal stem cells of periosteal origin, primary periosteal cells were isolated from New Zealand white rabbits, transduced in vitro with a retroviral vector bearing both the nuclear localized lacZ marker gene and the neo(r) gene, and selected in G418. We used a convenient model for analysis of in vivo stability of these cells which were seeded on to polymer scaffold grafts and implanted into rabbit femoral osteochondral defects. The nuclear localized .beta.-galactosidase protein was expressed in essentially 100% of selected cells in vitro and was observed in the experimental explants from animals after both 4 and 8 weeks in vivo, while cells transduced with a retroviral vector bearing only the neo(r) gene in negative control explants showed no blue staining. We extended our study by delivering a gene of therapeutic relevance, human **bone morphogenic**

protein 7 (hBMP-7), to primary periosteal cells via retroviral vector. The hBMP-7 gene was cloned from human kidney 293 cell total RNA by RT-PCR into a retroviral vector under control of the CMV enhancer/promoter. Hydroxyapatite secretion, presumably caused by overexpression of hBMP-7, was observed on the surface of the transduced and selected periosteal cells, however, this level of expression was toxic to both PA317 producer and primary periosteal cells. Subsequently, the strong CMV enhancer/promoter driving the hBMP-7 gene was replaced in the retroviral vector by a weaker enhancer/promoter from the rat .beta.-actin gene. Non-toxic levels of expression of hBMP-7 were confirmed at both the RNA and protein levels in PA317 producer and primary periosteal cell lines and cell supernatants. This work demonstrates the feasibility of using a gene therapy approach in attempts to promote bone and cartilage tissue repair using gene-modified periosteal cells on grafts.

ACCESSION NUMBER: 1998294320 EMBASE
TITLE: Expression of human **bone morphogenic protein** 7 in primary rabbit periosteal cells: Potential utility in gene therapy for osteochondral repair.
AUTHOR: Mason J.M.; Grande D.A.; Barcia M.; Grant R.; Pergolizzi R.G.; Breitbart A.S.
CORPORATE SOURCE: J.M. Mason, Viral Vector Laboratory, Department of Research, North Shore University Hospital, 350 Community Drive, Manhasset, NY 11030, United States
SOURCE: Gene Therapy, (1998) 5/8 (1098-1104).
Refs: 27
ISSN: 0969-7128 CODEN: GETHEC
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 033 Orthopedic Surgery
LANGUAGE: English
SUMMARY LANGUAGE: English

L13 ANSWER 14 OF 14 SCISEARCH COPYRIGHT 2003 THOMSON ISI
TI Expression of human **bone morphogenic protein** 7 in primary rabbit periosteal cells: potential utility in gene therapy for osteochondral repair

AB A commonly encountered problem in orthopedics is bone and cartilage tissue injury which heals incompletely or without full structural integrity. This necessitates development of improved methods for treatment of injuries which are not amenable to treatment using current therapies. An already large and growing number of growth factors which play significant roles in bone remodeling and repair have been identified in the past few years. It is well established that bone morphogenic proteins induce the production of new bone and cartilage. An efficient method of delivery of these growth factors by conventional pharmacological means has yet to be elucidated We wished to evaluate the use of retroviral vector-mediated gene transfer to deliver genes of therapeutic relevance for bone and **cartilage repair**. To determine the feasibility of using amphotropically packaged retroviral vectors to transduce primary rabbit mesenchymal stem cells of periosteal origin, primary periosteal cells were isolated from New Zealand white rabbits, transduced in vitro with a retroviral vector bearing both the nuclear localized lacZ marker gene and the neo(r) gene, and selected in G418. We used a convenient model for analysis of in vivo stability of these cells which were seeded on to polymer scaffold grafts and implanted into rabbit femoral osteochondral defects. The nuclear localized beta-galactosidase protein was expressed in essentially 100% of selected cells in vitro and was observed in the experimental explants from animals after both 4 and 8 weeks in vivo, while cells transduced with a retroviral vector bearing only the neo(r) gene in negative control explants showed no blue staining. We extended our study by delivering a gene of therapeutic relevance, human **bone morphogenic protein** 7 (hBMP-7), to primary periosteal cells via retroviral vector. The hBMP-7 gene was cloned from human kidney 293 cell total RNA by RT-PCR into a retroviral vector

under control of the CMV enhancer/promoter. Hydroxyapatite secretion, presumably caused by overexpression of hBMP-7, was observed on the surface of the transduced and selected periosteal cells, however, this level of expression was toxic to both PA317 producer and primary periosteal cells. Subsequently, the strong CMV enhancer/promoter driving the hBMP-7 gene was replaced in the retroviral vector by a weaker enhancer/promoter from the rat beta-actin gene. Nontoxic levels of expression of hBMP-7 were confirmed at both the RNA and protein levels in PA317 producer and primary periosteal cell lines and cell supernatants. This work demonstrates the feasibility of using a gene therapy approach in attempts to promote bone and cartilage tissue repair using gene-modified periosteal cells on grafts.

ACCESSION NUMBER: 1998:612330 SCISEARCH
THE GENUINE ARTICLE: 107RU
TITLE: Expression of human **bone morphogenic protein** 7 in primary rabbit periosteal cells: potential utility in gene therapy for osteochondral repair
AUTHOR: Mason J M (Reprint); Grande D A; Barcia M; Grant R; Pergolizzi R G; Breitbart A S
CORPORATE SOURCE: N SHORE UNIV HOSP, NYU, SCH MED, DEPT RES, VIRAL VECTOR LAB, 350 COMMUNITY DR, MANHASSET, NY 11030 (Reprint); N SHORE UNIV HOSP, NYU, SCH MED, DEPT SURG, DIV ORTHOPED, MANHASSET, NY 11030; N SHORE UNIV HOSP, NYU, SCH MED, DEPT SURG, DIV PLAST & RECONSTRUCT SURG, MANHASSET, NY 11030
COUNTRY OF AUTHOR: USA
SOURCE: GENE THERAPY, (AUG 1998) Vol. 5, No. 8, pp. 1098-1104. Publisher: STOCKTON PRESS, HOUNDMILLS, BASINGSTOKE RG21 6XS, HAMPSHIRE, ENGLAND. ISSN: 0969-7128.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 27
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

=> s articular
L14 127781 ARTICULAR

=> s nonarticular cartilage
L15 30 NONARTICULAR CARTILAGE

=> d l15 and defect locus
'AND' IS NOT A VALID FORMAT
'DEFECT' IS NOT A VALID FORMAT
'LOCUS' IS NOT A VALID FORMAT
In a multifile environment, a format can only be used if it is valid in at least one of the files. Refer to file specific help messages or the STNGUIDE file for information on formats available in individual files.
REENTER DISPLAY FORMAT FOR ALL FILES (FILEDEFAULT):end

=> s l15 and defect locus
L16 9 L15 AND DEFECT LOCUS

=> d l16 ti abs ibib tot

L16 ANSWER 1 OF 9 USPATFULL
TI Repair of larynx, trachea, and other fibrocartilaginous tissues
AB Provided herein are methods and devices for inducing the formation of functional replacement **nonarticular cartilage** tissues and ligament tissues. These methods and devices involve the use of osteogenic proteins, and are useful in repairing defects in the larynx, trachea, interarticular menisci, intervertebral discs, ear,

nose, ribs and other fibrocartilaginous tissues in a mammal.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ACCESSION NUMBER:	2001:165613 USPATFULL
TITLE:	Repair of larynx, trachea, and other fibrocartilaginous tissues
INVENTOR(S):	Vukicevic, Slobodan, Zagreb, Croatia Katic, Vladimir, Zagreb, Croatia Sampath, Kuber T., Holliston, MA, United States
PATENT ASSIGNEE(S):	Creative BioMolecules, Inc. (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2001024823	A1	20010927
APPLICATION INFO.:	US 2001-828607	A1	20010406 (9)

RELATED APPLN. INFO.: Continuation of Ser. No. WO 1999-US17222, filed on 30 Jul 1999, UNKNOWN

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-103161P	19981006 (60)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	APPLICATION
LEGAL REPRESENTATIVE:	FISH & NEAVE, 1251 AVENUE OF THE AMERICAS, 50TH FLOOR, NEW YORK, NY, 10020-1105
NUMBER OF CLAIMS:	56
EXEMPLARY CLAIM:	1
LINE COUNT:	1859

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L16 ANSWER 2 OF 9 DGENE (C) 2003 THOMSON DERWENT

TI Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an osteogenic protein in a biocompatible, bioresorbable carrier

AN AAY92442 Protein DGENE

AB The specification concerns a novel method for repairing a defect in a non-articular cartilage tissue or a ligament of a mammal, which comprises providing an osteogenic protein in a biocompatible, bioresorbable carrier to the **defect locus** to induce the formation of functional replacement cartilage. The methods and implants, promote chondrogenesis and are useful for repairing or correcting a defect in a non-articular cartilage tissue or a ligament of a mammal, e.g. cleft larynx, oedema of the glottis, ulceration of the larynx caused by syphilis, tuberculosis or malignancy, defects resulting from mechanical trauma to the larynx or trachea (including tracheotomy and laryngotomy), laryngeal cancer, and defects of the ear, nose, ribs, invertebral discs, and interarticular menisci.

ACCESSION NUMBER:	AAY92442 Protein DGENE
TITLE:	Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an osteogenic protein in a biocompatible, bioresorbable carrier
INVENTOR:	Vukicevic S; Katic V; Sampath K T
PATENT ASSIGNEE:	(STYC) STRYKER CORP.
PATENT INFO:	WO 2000020021 A1 20000413 65p
APPLICATION INFO:	WO 1999-US17222 19990730
PRIORITY INFO:	US 1998-103161 19981006
DOCUMENT TYPE:	Patent
LANGUAGE:	English
OTHER SOURCE:	2000-317644 [27]
CROSS REFERENCES:	N-PSDB: AAA09361
DESCRIPTION:	Human osteogenic protein 1 (OP-1).

L16 ANSWER 3 OF 9 DGENE (C) 2003 THOMSON DERWENT

TI Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an osteogenic protein in a biocompatible, bioresorbable carrier

AN AAY92441 protein DGENE

AB Generic Sequence 10 contains generic sequence 9 and an N-terminal extension. Generic sequence 9 is a composite amino acid sequence of the following proteins: human OP-1 to -3, human BMP-2 to -6, -9 to -11, Drosophila 60A, Xenopus Vg-1, sea urchin UNIVIN, human CDMP-1 to -3, human and mouse GDF-1, chicken DORSALIN, DPP, Drosophila Screw, mouse NODAL, mouse GDF-8 to -11, human GDF-8, -11, human BMP-15 and rat BMP3b. The specification concerns a novel method for repairing a defect in a non-articular cartilage tissue or a ligament of a mammal, which comprises providing an osteogenic protein in a biocompatible, bioresorbable carrier to the **defect locus** to induce the formation of functional replacement cartilage. The methods and implants, promote chondrogenesis and are useful for repairing or correcting a defect in a non-articular cartilage tissue or a ligament of a mammal, e.g. cleft larynx, oedema of the glottis, ulceration of the larynx caused by syphilis, tuberculosis or malignancy, defects resulting from mechanical trauma to the larynx or trachea (including tracheotomy and laryngotomy), laryngeal cancer, and defects of the ear, nose, ribs, invertebral discs, and interarticular menisci.

ACCESSION NUMBER: AAY92441 protein DGENE

TITLE: Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an osteogenic protein in a biocompatible, bioresorbable carrier

INVENTOR: Vukicevic S; Katic V; Sampath K T

PATENT ASSIGNEE: (STYC) STRYKER CORP.

PATENT INFO: WO 2000020021 A1 20000413 65p

APPLICATION INFO: WO 1999-US17222 19990730

PRIORITY INFO: US 1998-103161 19981006

DOCUMENT TYPE: Patent

LANGUAGE: English

OTHER SOURCE: 2000-317644 [27]

DESCRIPTION: Generic sequence 10, derived from osteogenic protein family members.

L16 ANSWER 4 OF 9 DGENE (C) 2003 THOMSON DERWENT

TI Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an osteogenic protein in a biocompatible, bioresorbable carrier

AN AAY92440 protein DGENE

AB Generic Sequence 9 is a composite amino acid sequence of the following proteins: human OP-1 to -3, human BMP-2 to -6, -9 to -11, Drosophila 60A, Xenopus Vg-1, sea urchin UNIVIN, human CDMP-1 to -3, human and mouse GDF-1, chicken DORSALIN, DPP, Drosophila Screw, mouse NODAL, mouse GDF-8 to -11, human GDF-8, -11, human BMP-15 and rat BMP3b. The specification concerns a novel method for repairing a defect in a non-articular cartilage tissue or a ligament of a mammal, which comprises providing an osteogenic protein in a biocompatible, bioresorbable carrier to the **defect locus** to induce the formation of functional replacement cartilage. The methods and implants, promote chondrogenesis and are useful for repairing or correcting a defect in a non-articular cartilage tissue or a ligament of a mammal, e.g. cleft larynx, oedema of the glottis, ulceration of the larynx caused by syphilis, tuberculosis or malignancy, defects resulting from mechanical trauma to the larynx or trachea (including tracheotomy and laryngotomy), laryngeal cancer, and defects of the ear, nose, ribs, invertebral discs, and interarticular menisci.

ACCESSION NUMBER: AAY92440 protein DGENE

TITLE: Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an osteogenic protein in a biocompatible, bioresorbable

carrier
INVENTOR: Vukicevic S; Katic V; Sampath K T
PATENT ASSIGNEE: (STYC)STRYKER CORP.
PATENT INFO: WO 2000020021 A1 20000413 65p
APPLICATION INFO: WO 1999-US17222 19990730
PRIORITY INFO: US 1998-103161 19981006
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-317644 [27]
DESCRIPTION: Generic sequence 9, derived from osteogenic protein family members.

L16 ANSWER 5 OF 9 DGENE (C) 2003 THOMSON DERWENT
TI Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an osteogenic protein in a biocompatible, bioresorbable carrier
AN AAY92439 protein DGENE
AB Generic Sequence 8 contains generic sequence 7 (AAY92438), which accomodates the homologies shared among osteogenic protein family members, including OP-1, OP-2, OP-3, BMP-2 to -6, 60A, DPP, Vg-1, Vgr-1 and GDF, as well as an N-terminal addition of 5 residues. The specification concerns a novel method for repairing a defect in a non-articular cartilage tissue or a ligament of a mammal, which comprises providing an osteogenic protein in a biocompatible, bioresorbable carrier to the **defect locus** to induce the formation of functional replacement cartilage. The methods and implants, promote chondrogenesis and are useful for repairing or correcting a defect in a non-articular cartilage tissue or a ligament of a mammal, e.g. cleft larynx, oedema of the glottis, ulceration of the larynx caused by syphilis, tuberculosis or malignancy, defects resulting from mechanical trauma to the larynx or trachea (including tracheotomy and laryngotomy), laryngeal cancer, and defects of the ear, nose, ribs, invertebral discs, and interarticular menisci.
ACCESSION NUMBER: AAY92439 protein DGENE
TITLE: Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an osteogenic protein in a biocompatible, bioresorbable carrier
INVENTOR: Vukicevic S; Katic V; Sampath K T
PATENT ASSIGNEE: (STYC)STRYKER CORP.
PATENT INFO: WO 2000020021 A1 20000413 65p
APPLICATION INFO: WO 1999-US17222 19990730
PRIORITY INFO: US 1998-103161 19981006
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-317644 [27]
DESCRIPTION: Generic sequence 8, derived from osteogenic protein family members.

L16 ANSWER 6 OF 9 DGENE (C) 2003 THOMSON DERWENT
TI Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an osteogenic protein in a biocompatible, bioresorbable carrier
AN AAY92438 protein DGENE
AB Generic Sequence 7 accomodates the homologies shared among osteogenic protein family members, including OP-1, OP-2, OP-3, BMP-2 to -6, 60A, DPP, Vg-1, Vgr-1 and GDF. The specification concerns a novel method for repairing a defect in a non-articular cartilage tissue or a ligament of a mammal, which comprises providing an osteogenic protein in a biocompatible, bioresorbable carrier to the **defect locus** to induce the formation of functional replacement cartilage. The methods and implants, promote chondrogenesis and are useful for repairing or correcting a defect in a non-articular cartilage tissue or a ligament of a mammal, e.g. cleft larynx, oedema of the

glottis, ulceration of the larynx caused by syphilis, tuberculosis or malignancy, defects resulting from mechanical trauma to the larynx or trachea (including tracheotomy and laryngotomy), laryngeal cancer, and defects of the ear, nose, ribs, invertebral discs, and interarticular menisci.

ACCESSION NUMBER: AAY92438 protein DGENE
TITLE: Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an osteogenic protein in a biocompatible, bioresorbable carrier
INVENTOR: Vukicevic S; Katic V; Sampath K T
PATENT ASSIGNEE: (STYC) STRYKER CORP.
PATENT INFO: WO 2000020021 A1 20000413 65p
APPLICATION INFO: WO 1999-US17222 19990730
PRIORITY INFO: US 1998-103161 19981006
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-317644 [27]
DESCRIPTION: Generic sequence 7, derived from osteogenic protein family members.

L16 ANSWER 7 OF 9 DGENE (C) 2003 THOMSON DERWENT
TI Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an osteogenic protein in a biocompatible, bioresorbable carrier
AN AAY92437 protein DGENE
AB OPX defines the seven-cysteine skeleton of several OP-1 and OP-2 variants. Each Xaa is chosen from the residues occuring at the corresponding position in the C-terminal sequence of mouse or human OP-1 or OP-2. The specification concerns a novel method for repairing a defect in a non-articular cartilage tissue or a ligament of a mammal, which comprises providing an osteogenic protein in a biocompatible, bioresorbable carrier to the **defect locus** to induce the formation of functional replacement cartilage. The methods and implants, promote chondrogenesis and are useful for repairing or correcting a defect in a non-articular cartilage tissue or a ligament of a mammal, e.g. cleft larynx, oedema of the glottis, ulceration of the larynx caused by syphilis, tuberculosis or malignancy, defects resulting from mechanical trauma to the larynx or trachea (including tracheotomy and laryngotomy), laryngeal cancer, and defects of the ear, nose, ribs, invertebral discs, and interarticular menisci.
ACCESSION NUMBER: AAY92437 protein DGENE
TITLE: Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an osteogenic protein in a biocompatible, bioresorbable carrier
INVENTOR: Vukicevic S; Katic V; Sampath K T
PATENT ASSIGNEE: (STYC) STRYKER CORP.
PATENT INFO: WO 2000020021 A1 20000413 65p
APPLICATION INFO: WO 1999-US17222 19990730
PRIORITY INFO: US 1998-103161 19981006
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-317644 [27]
DESCRIPTION: Generic OPX, seven-cysteine skeleton.

L16 ANSWER 8 OF 9 DGENE (C) 2003 THOMSON DERWENT
TI Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an osteogenic protein in a biocompatible, bioresorbable carrier
AN AAA09361 cDNA DGENE
AB The specification concerns a novel method for repairing a defect in a non-articular cartilage tissue or a ligament of a mammal, which comprises providing an osteogenic protein in a biocompatible, bioresorbable carrier

to the **defect locus** to induce the formation of functional replacement cartilage. The methods and implants, promote chondrogenesis and are useful for repairing or correcting a defect in a non-articular cartilage tissue or a ligament of a mammal, e.g. cleft larynx, oedema of the glottis, ulceration of the larynx caused by syphilis, tuberculosis or malignancy, defects resulting from mechanical trauma to the larynx or trachea (including tracheotomy and laryngotomy), laryngeal cancer, and defects of the ear, nose, ribs, invertebral discs, and interarticular menisci.

ACCESSION NUMBER: AAA09361 cDNA DGENE
TITLE: Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an osteogenic protein in a biocompatible, bioresorbable carrier
INVENTOR: Vukicevic S; Katic V; Sampath K T
PATENT ASSIGNEE: (STYC) STRYKER CORP.
PATENT INFO: WO 2000020021 A1 20000413 65p
APPLICATION INFO: WO 1999-US17222 19990730
PRIORITY INFO: US 1998-103161 19981006
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: 2000-317644 [27]
CROSS REFERENCES: P-PSDB: AAY92442
DESCRIPTION: Human osteogenic protein 1 (OP-1) coding sequence.

L16 ANSWER 9 OF 9 WPIDS (C) 2003 THOMSON DERWENT
TI Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an osteogenic protein in a biocompatible, bioresorbable carrier.
AN 2000-317644 [27] WPIDS
CR 2000-317706 [27]
AB WO 200020021 A UPAB: 20020910
NOVELTY - Repairing a defect in a **nonarticular cartilage** tissue or a ligament of a mammal, comprising providing an osteogenic protein in a biocompatible, bioresorbable carrier to the **defect locus**, inducing the formation of functional replacement cartilage, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an implantable device for repairing a defect in a **nonarticular cartilage** tissue comprising an osteogenic protein disposed in a devitalized cartilage, a collagen carrier, or a carboxymethylcellulose carrier; and

(2) promoting chondrogenesis at a **defect locus** in a mammal comprising providing an osteogenic protein in a devitalized cartilage carrier that is configured to fit into the **defect locus**.

ACTIVITY - Osteogenic; chondrogenic.

MECHANISM OF ACTION - Osteopathic stimulating implant; transplantation.

USE - The methods and implants are useful for repairing or correcting a defect in a **nonarticular cartilage** tissue or a ligament of a mammal, e.g. cleft larynx, edema of the glottis, ulceration of the larynx caused by syphilis, tuberculosis or malignancy, defects resulting from mechanical trauma to the larynx or trachea (including tracheotomy and laryngotomy), laryngeal cancer, and defects of the ear, nose, ribs, invertebral discs, and interarticular menisci.

Dwg.0/0

ACCESSION NUMBER: 2000-317644 [27] WPIDS
CROSS REFERENCE: 2000-317706 [27]
DOC. NO. CPI: C2000-096081
TITLE: Novel methods for repairing a defect in mammalian **nonarticular cartilage** tissue or ligaments using an osteogenic protein in a biocompatible,

bioresorbable carrier.

DERWENT CLASS: A96 B04 D22
INVENTOR(S): KATIC, V; SAMPATH, K T; VUKICEVIC, S
PATENT ASSIGNEE(S): (STYC) STRYKER CORP; (CREA-N) CREATIVE BIOMOLECULES INC
COUNTRY COUNT: 23
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000020021	A1	20000413	(200027)*	EN	64
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: AU CA JP US					
AU 9952417	A	20000426	(200036)		
EP 1117422	A1	20010725	(200143)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
US 2001024823	A1	20010927	(200159)		
JP 2002526167	W	20020820	(200258)		70

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 2000020021	A1		WO 1999-US17222	19990730
AU 9952417	A		AU 1999-52417	19990730
EP 1117422	A1		EP 1999-937624	19990730
			WO 1999-US17222	19990730
US 2001024823	A1	Provisional	US 1998-103161P	19981006
		Cont of	WO 1999-US17222	19990730
			US 2001-828607	20010406
JP 2002526167	W		WO 1999-US17222	19990730
			JP 2000-573380	19990730

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9952417	A	Based on	WO 200020021
EP 1117422	A1	Based on	WO 200020021
JP 2002526167	W	Based on	WO 200020021

PRIORITY APPLN. INFO: US 1998-103161P 19981006; US 2001-828607 20010406